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Project Director: Dr. J. A. Myrick

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RURAL VOLUNTEER
EMERGENCY MEDICAL COORDINATORS (EMCs)

EXECUTIVE SUMMARY

Grant No. R18 HS 02507

by

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October 1980

This grant was supported by the National Center for Health Services
Research, OASH.

INTRODUCTION

The purpose of this research was to implement and evaluate a new concept in providing first-responders to medical emergencies within small medically-isolated rural communities. A group of 36 rural communities in Georgia served as the test site. These communities were all under 2000 in population and had neither a practicing physician nor an ambulance within the community. They were thus dependent upon neighboring community emergency resources. Two volunteers from each community were selected and trained. These volunteers are called Emergency Medical Coordinators (EMCs).

The EMC program is different from typical first responder programs in three ways. First, the EMCs were selected by a representative community group (PTA, Lions Club, City Council, etc.) and therefore are only volunteers in the sense that they are not compensated for their services. The communities were approached in two different ways: (1) an attempt to seek sponsorship through a community civic group--referred to in the study as the voluntary groups, and (2) an attempt to seek sponsorship through the Mayor and City Council--referred to as the governmental groups. Specific criteria were developed to aid in community selection. These criteria are as follows:

The candidate:

1. has a private telephone
2. has a car available at all times
3. is in good physical condition
4. works in the community (if employed)
5. is a long-time resident of the community
6. is competent to learn the necessary skills
7. is respected in the community
8. wants to be an EMC

The second difference is that the EMCs were both well-trained and well-equipped. The volunteers were given a 40-hour training program with refresher training of 10 to 20 hours at 6-month intervals. Each EMC was provided a modern first aid kit with funding coming jointly from the project and

the individual communities. The third difference is that an organized system of response was developed. Telephone stickers were printed and distributed with community-specific emergency information informing the caller to FIRST CALL the neighboring ambulance and THEN CALL the nearest EMC. The EMCs also conducted various community awareness activities as part of the EMC function. Three issues will be explored in the following sections: (1) Is there a need for the EMC program or a similar program? (2) Does the EMC program prove to be useful as a concept? and (3) Is the EMC program truly effective in providing a first-responder service to small rural communities?

The Need for the EMC Program

There are approximately 11,000 communities in the United States which have populations of under a thousand. The vast majority of these communities do not have community emergency resources. Thus the response time for ambulances to come from neighboring communities is often unsatisfactory. The EMC study showed a mean ambulance response time existed in these communities of approximately 20 minutes. One of the communities had a response time of over 41 minutes. In contrast, the mean EMC response time was 4.38 minutes. Thus the EMC arrived an average of 16 minutes ahead of the ambulance units. While some emergency calls are not critical in terms of response time, those situations which are life-threatening may not tolerate a 20-minute response time. It is therefore important to improve emergency response time in order to provide proper and timely care for this group of emergency patients.

Community selection included those communities in which an ambulance was 5 miles or more away. It was shown that the community perception of need for the EMC program varied with ambulance distance. Those communities within 7 miles (although at least 5 miles away) were markedly less enthusiastic about the EMC program than those who were at distances of greater than 7 miles.

The EMC Program as a Workable Concept

The concept of community selection of two local volunteers who are trained and equipped to implement the EMC program in their communities appears to have worked very well. The decision to select only two volunteers per community was found to be appropriate in terms of availability of these volunteers when needed. This allowed the utilization of limited training resources to benefit many communities since only two EMCs in each community were trained. This also allowed publicity efforts including the printing of telephone stickers to be focused upon two individuals in order to promote greater community awareness of who to call in an emergency.

It was found that rural communities had a great interest in this program and were willing to select volunteers. They were also willing to support the program financially through the purchase of one of the two first aid kits. While 36 communities participated, only 5 could not identify a sponsor group willing to work with the program and only 7 communities could not find candidate EMCs willing to undergo the training. It was found that it became harder to locate appropriate candidates as the communities became smaller. Five of the smallest communities (150 to 350 in population) could only find one person willing to be trained. Four of the 7 communities who could find no volunteers were also of this size.

Community groups could not always meet the selection criteria for EMCs. Those criteria which proved the hardest to meet were the residence and workplace criteria. Approximately a third of the EMCs worked outside the community and another third lived outside a one-mile radius of the center of town which was the target location in terms of access to emergency incidents. It also appeared that selection of a long-time resident was beneficial in terms of that person being known and respected by the community. Residents who had lived at least 6 years in the community had a much higher emergency call rate than those having lived in the community 5 years or less.

One evidence of the acceptability of the selection criteria is the number who moved away or quit the program. A total of 10 EMCs moved away from their communities during the two-year program. An additional 2 EMCs essentially quit the program. More experience with the EMC program is needed to determine whether 10 who move out of the group of 68 is excessive and whether greater adherence to the selection criteria or additional criteria may reduce the number of those who move away.

Analysis of the incidents and discussions with the EMCs have indicated that the 40-hour training program was sufficient. The EMCs were equipped with the basic skills to provide appropriate stabilization of the patient's condition until an ambulance arrived. This training combined with periodic refresher training was shown to be effective.

It should be strongly emphasized that refresher training is critical to the EMC program. It not only provides a refresher in terms of technical knowledge and skills, but provides the extra enthusiasm for the program needed in a volunteer organization such as this one. Appropriate recognition for the EMCs is also a necessary element in keeping the motivation and enthusiasm high.

The Effectiveness of the EMC Program

The primary case for the effectiveness of the program is in the incident data collected. The EMCs submitted a total of 736 reports in the 22-month period, and of these, the EMCs responded to 469 calls. Of these, there were 263 cases of emergencies in which the patient was subsequently transported by ambulance to the hospital. Most of the case analysis was based upon this subset since these are the cases for which the EMC program was created.

Traffic incidents represented the greatest group of cases at 44 percent, followed by general medical cases at 38 percent. In terms of severity of the 263 cases, 32 percent were judged to be severe or critical and 15 percent were dead at the scene. The EMC response time of 4.38 minutes as

compared to an ambulance response of approximately 20 minutes testifies to the effectiveness of the program. The EMC arrived at the scene in 4 minutes or less in 63 percent of the cases and was within 2 miles of the scene in 61 percent of the cases. The EMC was on the scene a minimum of 9 minutes prior to the ambulance arrival in 80 percent of the cases. In only 13 percent of the cases was the ambulance on the scene when the EMC arrived.

With respect to location, the patient was at home in 40 percent of the cases and on or near the roadway in 43 percent of the cases. The EMC, when called, was at home in 73 percent of the cases. In analyzing the caller, 45 percent of the calls to EMCs in the traffic cases came from the local police and 33 percent were community residents. In the general medical cases, 34 percent of the calls came from the immediate family and 24 percent came from community residents. The ambulance was called first in 67 percent of the cases as was the plan for the EMC program. It is significant that 26 percent of the patients were non-residents. Most of these were the traffic cases. Thus, the EMC program not only benefits the specific community residents but non-residents as well.

In order to measure performance of the EMC at the scene of the accident or illness, an overall emergency performance score called the First Aid Performance Index (FAPI) was utilized. The FAPI is based upon the weighted set of first aid procedures performed divided by the weighted set of first aid procedures required based upon the condition or conditions of the patient. It was seen from the incident data that the FAPI was highest for patients in the severe category, thus suggesting that the EMCs were performing based upon the need of the patient. It was also seen that FAPI varied with distance of the community to ambulance resources--the highest scores coming from those incidents which were at some distance from the ambulance. The number of emergency cases also varied with distance to the ambulance suggesting that community perceptions are at work in the process. The mean number of cases handled

by the EMC when the ambulance was within 7 miles was 1.6 cases. In contrast, with the ambulance based 8 or more miles away, the mean number of cases handled was 4.7 cases. Higher FAPIs were experienced with younger EMCs and with higher education.

EMC attitudes were measured by questionnaire at two points in the project. The attitudes concerning three areas were assessed--worth of the project, personal confidence in performing, and personal interest in the project. It was found that those EMCs who had a higher mean FAPI were those who had a high score for worth of the project on the first attitude questionnaire. This suggests that a measure could be developed to screen possible EMC candidates.

Differences in confidence and interest scores on the second questionnaire could also be correlated with FAPI. Long time residence also correlated with the number of cases handled by the EMC implying that there is a trust factor at work within the community with those EMCs known by the community. Those EMCs who had lived in the community 6 or more years received an average of 3.5 emergency calls versus those with residence under 6 years received 1.6 calls. However, using 10 years as the division point produced non-significant results.

In addition to FAPI and number of cases as performance indicators, two overall indicators were useful. The first, called the Effectiveness Score, is composed of six performance indicators--four non-emergency indicators and the indicators, FAPI and number of cases received. The other four include attendance at refresher training, phone sticker distribution, publicity and promotion activities, and contacts with the emergency medical community such as rides on the county ambulances, in-service training at neighboring hospitals, etc. The second score, called the Activity Score, is composed of only the four non-emergency indicators.

Those EMCs who were in the upper half on the Activity Score were shown to have higher FAPI and higher number of cases received. It is concluded that EMCs who are involved in the

promotional activities are the ones who the community will call and the ones who will have a better emergency performance as measured by FAPI.

It was shown that EMCs who were selected by voluntary groups, EMCs who were females, and EMCs who were selected by group process versus individual selection scored higher on both the Effectiveness Score and the Activity Score. Those EMCs who lived in the community scored higher on the Effectiveness Score and those who worked in the community scored higher on both the Effectiveness Score and the FAPI. It is evident that a desirable EMC is one who does not work outside the community--not only because of availability during the day, but because of overall higher effectiveness.

The EMCs also were effective as health educators. Through the various publicity activities of the EMCs, it was shown by means of telephone interview surveys that a measurable increase in public awareness took place. Thus, the EMCs not only were ready for duty when emergencies arose, but provided a vital public awareness function.

The EMC program also proved to be cost-effective. The primary cost of the program is in the training program and the refresher training. In contrast, the State of Georgia has trained over 13,000 licenced EMTs. Of this number, it is estimated that only 3 to 4 thousand are in any way active in emergency care--either full-time, part-time, or as volunteers. Thus, tremendous training resources have been expended on EMT training at a higher contact-hour level and, as a result, relatively few are utilizing that training. In contrast, the EMC program permits a higher percentage of those trained to continue to be useful in their communities because of its unique organizational structure. In addition, training resources can be applied to refresher training rather than primary training to keep current those who have been trained. It is doubtful that Georgia is alone in this percentage of EMTs who are not being appropriately utilized. This program will be

effective in any state with a significant rural population. This generalizability of the EMC program to other states is obvious.

EMC Implementation Plan

This research has developed information which will be of use in implementation of the EMC program in other settings.

1. The EMC program should be based in an EMS unit at a regional or state level. The most important decision is that of committing necessary staff time for initial planning, implementation, and ongoing operations.
2. The first task in implementation will be to identify rural communities which do not have an existing ambulance service. Personal visits to these communities appear to be essential in promoting the idea and in seeking a community group with which to work in the EMC selection process.
3. The selection of effective EMCs was found to be more successful when utilizing a community civic group rather than the Mayor and City Council.
4. Specific selection criteria should be provided to the community group and the importance of the criteria stressed--particularly residence and workplace.
5. It was found that the training program provided not only technical skills but enthusiasm and motivation for the EMC. It is recommended that the training be performed in attractive surroundings and that the EMCs be trained in geographical groups in order to get to know one another. Special logo items such as auto tags, arm patches, decals, etc. were found to be good motivational tools for the EMCs as well as providing good visibility for the program.
6. A proper budget should be provided to purchase the first aid kits and provide for periodic publicity efforts. Telephone stickers should be provided with information which is community-specific. These stickers should be periodically reprinted and distributed by the EMCs to keep the community awareness at a high level.
7. Periodic refresher training is essential to the ongoing success of the EMC program. It is recommended that this refresher training be conducted at six-month intervals. This will also provide contact between the EMCs and the EMS staff in order to continue to plan publicity efforts and other promotional activities. It was valuable to have the EMCs participate in community awareness activities. It is recommended that these activities be formalized and EMCs urged to perform these on a regular basis.

8. Some form of incident reporting should be a part of the EMC activity. Information from these incident reports could identify areas in which more publicity is needed, identify appropriate areas for refresher training, identify which EMCs are no longer effective, etc.
9. Finally the regional EMS staff should publish a periodic newsletter to provide communication between the EMCs and the regional staff as well as communication among EMCs. The newsletters developed during the research project could serve as a model for this activity.

RURAL VOLUNTEER EMERGENCY MEDICAL COORDINATORS

FINAL REPORT



Supported by Grant R18 HS02507 from the
National Center for Health Services Research
Office of Health Research, Statistics, and Technology
Department of Health and Human Services



Health Systems Research Center
Georgia Institute of Technology
Atlanta October 1980

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Rural Volunteer Emergency Medical Coordinators: Final Report, PHS Grant No. R18 HS 02507, October 1980, 158 pp. (Health Care Abstract No. 24527 ED).

Health Systems Planning Option Final Report, Special Training Project, PHS Grant No. AH 00958, June 1980, 182 pp. (Hospital Abstract No. 22774 AR).

Evaluation of the Role of Police in the EMS System, PHS Grant No. HS 01767, June 1978, 188 pp. (Hospital Abstract No. 19614 ED).

Conference Proceedings--Evaluation of the Role of Police in the EMS System: Implications for Administrators, PHS Grant No. HS 01767, March 1978, 59 pp. (Hospital Abstract No. 19613 ED).

Curricula in Health Systems: Final Report, Special Training Project, PHS Grant No. AH 00242, September 1977, 217 pp. (Hospital Abstract No. 18239 HE).

Evaluation of the Group Reimbursement Incentive Project of the Birmingham Regional Hospital Council: Final Report, Social Security Administration Contract No. SSA-PMB-73-154, June 1977, 386 pp. (Hospital Abstract No. 17789 IN).

EMS System Data Requirements for Performance Evaluation, PHS Grant No. HS 00715, December 1974, 86 pp. (Hospital Abstract No. 13565 OU).

Telemetry Utilization for Emergency Medical Services System, PHS Grant No. HS 00715, June 1974, 64 pp. (Hospital Abstract No. 12484 OU).

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Dental Manpower Planning: A Systems-Analytic View, PHS Grant No. AH 01056, May 1973, 218 pp. (Hospital Abstract No. 10250 MP).

An Improved Emergency Medical Systems for Metropolitan Atlanta, A Comprehensive Plan and Systems Design, Georgia Regional Medical Program Contract, March 1973, 566 pp. (Hospital Abstract No. 10150 OU).

Program in Hospital and Medical Systems: Final Report and Evaluation, PHS Grant No. AH 10156, February 1973, 238 pp. (Hospital Abstract No. 10050 MN).

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Fiscal Controls for Hospital Departments, PHS Grant No. AH 10156, October 1972, 203 pp. (Hospital Abstract No. 09499 AC).

Analysis of Optimal Radiographic Location Networks, PHS Grant No. HS 00179, October 1971; Vol. I, II, III, and Parts 1-4 of Vol. IV, total of 562 pp. (Hospital Abstract Nos. RLO 7441-RLO 7447).

Systems Analysis of Medical Records in Georgia, PHS Contract No. HSM 110-70-349, September 1971; Vol. I, II, and III, total of 487 pp. (Hospital Abstract Nos. MRO 7741-MRO 7743).

The Planning of Clinical Facilities for Medical Education: A Systems Approach, PHS Grant No. AH 01056, August 1970, 349 pp. (Hospital Abstract No. MD2 5900).

Quantitative Methods for Evaluating Hospital Designs, PHS Grant No. HM 00529, August 1969, 239 pp. (Hospital Abstract No. DE 1026).

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EMERGENCY MEDICAL COORDINATORS (EMCs)

FINAL REPORT

Grant No. R18 HS 02507

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DEDICATION

This project is dedicated to a group, a town, and a man. The group is represented by the 68 EMCs who were willing to give of their lives and that of their families in order to help provide a better community. Some of the residents of these 36 communities are alive today because this group of EMCs cared enough to become trained and cared enough to be willing to put up with telephone calls any day and any hour. We of the project staff grew to admire these 68 special people.

The town is Saint Joseph, a small community of 547 people in southern middle Tennessee where I grew up. This community in the Volunteer State taught me much about small towns who had rather get the job done themselves than to wait for someone else to do it. The experiences in Saint Joe greatly shaped this project and, I believe, contributed much to its success.

The man is Judge Arthur M. Kaplan. Judge Kaplan has been giving to his community of Atlanta for over 25 years. He has provided first aid training for the police officers of Atlanta and DeKalb county for a quarter of a century and has personally been of emergency assistance as a first-responder to countless persons in distress. He is both a man of great vision as well as great concern for others. We of the project staff and EMCs owe him a great debt of appreciation. He motivated us, challenged us, and gave us part of himself. He has shown us what the "true Volunteer" really is!

ABSTRACT

The purpose of this research was to implement and evaluate a new concept in providing first-responders to medical emergencies within small medically-isolated rural communities. A group of 36 rural communities in Georgia served as the test site. These communities were all under 2000 in population and had neither a practicing physician nor an ambulance within the community. They were thus dependent upon neighboring community emergency resources. Two volunteers from each community were selected and trained. These volunteers are called Emergency Medical Coordinators (EMCs).

The EMC program is different from typical first responder programs in three ways. First, the EMCs were selected by a representative community group (PTA, Lions Club, City Council, etc.) and therefore are only volunteers in the sense that they are not compensated for their services. Specific criteria were developed to aid in community selection. The second difference is that the EMCs were both well-trained and well-equipped. The volunteers were given a 40-hour training program with refresher training of 10 to 20 hours at 6-month intervals. Each EMC was provided a modern first aid kit with funding coming jointly from the project and the individual communities. The third difference is that an organized system of response was developed. Telephone stickers were printed and distributed with community-specific emergency information informing the caller to FIRST CALL the neighboring ambulance and THEN CALL the nearest EMC. The EMCs also conducted various community awareness activities as part of the EMC function.

From a total of 736 calls received over a 22-month period, 263 cases were received in which the EMC responded to the scene and the patient was subsequently transported by ambulance to the hospital. The primary benefit of the EMC program is the ability to reduce the response time of a medically-trained person to the scene in order to stabilize the patient's condition. The research showed that the mean ambulance response time was approximately 20 minutes with one of the communities having a mean ambulance response time as high as 41 minutes. In contrast, the mean EMC response time was 4.38 minutes

which allowed the EMC to be on the scene an average of 16 minutes ahead of the ambulance.

The concept of community selection of two volunteers was found to be appropriate. Communities differed in their approach to selection. The research showed that with greater group involvement in the selection process, the probability of selecting more effective EMCs increased.

It was found that the vast majority of communities were very interested in the program and were willing to participate. Community interest in the program was found to vary with the distance to the neighboring ambulance units. The communities of 150 to 350 in population experienced some difficulty in finding appropriate EMCs willing to be trained but were still very interested in the program. Five of these communities could find only one person willing to volunteer.

With respect to the selection criteria, the most difficult was that of the EMC living and working within the community. Approximately a third of the EMCs selected by the communities did not work in the community and therefore were away from the communities a significant part of each day. This was shown to have an adverse effect on overall performance. The criterion of being a long-term resident proved to be effective in that the residents of 6 years or more received more emergency calls than those who had lived in the communities less than 6 years.

Of the 68 EMCs trained, only 2 quit the program during the two-year period but 10 EMCs moved away from their communities. Several of these were those who did not completely meet the selection criteria. Further research would be helpful in refining the criteria to produce a better retention rate.

The EMC program was found to be effective. It proved to be a cost-effective means of providing first-responder services in rural communities. With over 11,000 small communities in the United States which could profit from this approach, the EMC program in concept is highly generalizable to all rural areas.

CHAPTER I

PROJECT OVERVIEW

This report describes the results of a three year experimental study supported by Grant No. HS 02507 from the National Center for Health Services Research. The study sought to determine the feasibility and usefulness of a volunteer-based first responder EMS system in medically underserved rural communities.

The purposes of this chapter are to present a broad overview of the Rural Volunteer Emergency Medical Coordinator (EMC) concept and to briefly describe the study through which this concept was evaluated. Included in this discussion is a summary of the purpose and objectives of the project conducted by the Health Systems Research Center (HSRC) of the Georgia Institute of Technology.

Background

The National Academy of Sciences--National Research Council (1970) stated in 1966 that 70 percent of the traffic fatalities occur in rural areas and in towns of fewer than 2,500 people. Waller (1969, p. 2257) confirms this fact by noting that the injury-fatality rates per 100,000 population for residents of rural California counties are over twice that for urban counties. In a study of 2,000 consecutive highway deaths, it was found that 49 percent of the persons died within the first hour after injury. The importance of rural location upon survival was shown by Waller in a study which indicated that 37 percent of those who died in the first hour in urban areas died at the site of injury, compared to 75 percent in rural areas (Waller, 1969, p. 2256).

Many other emergency conditions occur in rural areas which are complicated by the increase in response time. For example, it is generally recognized that a four to six minute response time is critical to patients with cardiac arrest. This level of response is possible in most urban and suburban settings, but is not possible in most rural towns. More than 650,000 Americans die suddenly each year and the most common cause is cardiac arrest. Many could be saved with proper emergency stabilization procedures.

Despite national recognition of the importance of functioning emergency medical services systems to public welfare in the last decade, there remain serious deficiencies in EMS delivery in rural areas. A key factor connected with this problem relates to the low population density of rural areas. Relatively large response times, insufficient funding to provide quality services, and little planning are frequent results. Utilization is also low. A few calls per week do not allow personnel who have been properly trained to maintain the skills at the level necessary to treat serious trauma when these cases occur (Waller, Garner, and Lawrence, 1966, p. 515).

Ambulance services which are staffed with volunteers have provided satisfactory services in many areas. However, volunteers likewise suffer from the lack of sufficient practice necessary to maintain their skills. The effectiveness of many volunteer ambulance corps is also limited in that while they enthusiastically respond to emergencies in their community, there is a natural hesitancy to provide service to adjoining communities and outlying areas (Waller, 1973, p. 633). In addition, for smaller communities, the cost of the ambulance alone is prohibitive.

The EMC Concept

The concept of using two trained, equipped, community-selected individuals as first responders was introduced in each of thirty-six rural Georgia communities in early 1978 under this study. These persons, referred to subsequently as Emergency Medical Coordinators (EMCs), are the focal point of a first responder system in their respective communities. This system is intended to supplement the existing EMS system covering such rural communities. Because the EMCs are familiar with townspeople and the location of their homes, they can reach the scene of an emergency more quickly than the nearest ambulance service which is in a neighboring town and frequently more than a fifteen to twenty minute drive away. The EMC can thus stabilize the emergency victim until the ambulance arrives. In addition, the EMC serves as a coordinator for setting up and maintaining the response system by informing community members of the telephone numbers to call when emergencies occur. The EMC also functions as a health educator by increasing the community's awareness of potential emergencies thereby motivating people to learn how to avoid them.

This EMC concept represents an approach which is unique to past first responder efforts in three ways. First, instead of volunteering to be trained for the program, the EMCs are selected by an active community group, and therefore are volunteers only in the sense of their willingness to perform if selected and of not being compensated. The communities were asked to limit their selection to two EMCs. This represented a trade-off between costs of training and the availability of an EMC when an emergency occurred.

Second, the EMCs are well equipped with a modern first aid kit consisting of all of the stabilization equipment and materials which they are trained to use. The third difference is that a system of organized response is developed. Telephone stickers are distributed throughout the community which inform callers during a medical emergency to FIRST CALL the ambulance or ambulances which serve their particular community and THEN CALL the EMC nearest their location. The neighboring ambulance number is printed with the local volunteer numbers. Thus the telephone stickers for each community contain community-specific information. In addition to the phone stickers, other media are used in publicizing the EMC program and phone numbers. This includes publicity using local newspapers, radio stations, and presentations at local community meetings such as the PTA, city council, and others. It is important to emphasize that the EMC concept does not replace, circumvent, or otherwise hinder the existing ambulance which serves the community, but rather provides stabilization support for a seriously ill patient until the ambulance arrives.

Project Purpose and Objectives

The overall purpose of the project was to develop, implement, and evaluate the EMC concept. This purpose took the form of the following activity-oriented specific objectives:

- 1 (a) To develop criteria and select communities for participation.
(b) To develop criteria and assist in community selection of EMCs from within the target communities.
- 2 (a) To develop a training program consisting of first aid material and procedures for communication and coordination within the communities.
(b) To conduct a training program for the selected EMCs.
(c) To implement the EMC program within the communities and support each program with consultation and publicity assistance.

- 3 (a) To evaluate community use of the EMC program and the performance of the EMCs using case data collected from self-administered incident forms designed for this purpose.
- (b) To evaluate EMC attitudes and performance as health educators.
- 4 (a) To assess the overall applicability of the EMC concept for use in other similar communities.
- (b) To relate EMC selection variables with overall program success.

Each set of objectives is successively described in the following four chapters: "Implementation," "Training," "Performance," and "Program Impact."

The Evaluation Design

The structure through which the objectives are carried out is a quasi-experimental design which uses two groups of communities: One group is targeted as field sites for the EMC program (the intervention); the other group serves as a control. The basis for comparison is an assessment between what presently exists in rural communities to handle medical emergencies and what differences the EMC program makes in terms of a more appropriate response to such medical emergencies. Measurements of a set of socio-demographic, behavioral and EMS system variables are made in both control and experimental groups of communities before and after the EMC intervention is introduced.

Specially, this evaluation is designed to answer two basic questions: (1) Does the presence of an EMC program in a community have a measurable impact on increasing the knowledge of how and when to access the EMS system?; and (2) Does the presence of an EMC program in a community have a measureable impact on reducing the time interval in which appropriate care can be provided to an emergency victim? In conjunction with these two questions are subsets of questions concerning implementation of the EMC concept, training EMCs, EMC performance in the field, and impact on communities.

Implementation

- (1) What are community size and organizational characteristics associated with initial project support?
- (2) What is the most efficient way of identifying EMCs who meet project selection criteria?

Training

- (1) Are volunteers with little or no previous emergency care training able to master cognitive and practical skills required at the level of the DOT Crash Injury Management or Red Cross Course?
- (2) Is the training program appropriate for incidents encountered by EMCs in the field?

Performance

- (1) Do EMCs lower response time?
- (2) Do EMCs perform appropriate tasks at the emergency site?
- (3) Are there identifiable characteristics of an EMC which are related to (1) positive attitudes toward being an EMC, and (2) positive behaviors toward being an EMC?
- (4) Are project selection criteria for EMCs sufficient?

Impact

- (1) Does a need for a first responder system exist in project communities?
- (2) What are community characteristics associated with continued program support?
- (3) Do communities use the EMC as a first responder-health educator?

The following chapters in this report will address these questions and other related factors in detail.

CHAPTER II

PROGRAM IMPLEMENTATION

This chapter will examine three key questions regarding the implementation: (1) What is the most efficient way of identifying EMCs who meet project criteria?; (2) To what degree did EMCs meet the specified project selection criteria?; and (3) What are community size and organizational characteristics associated with project support?

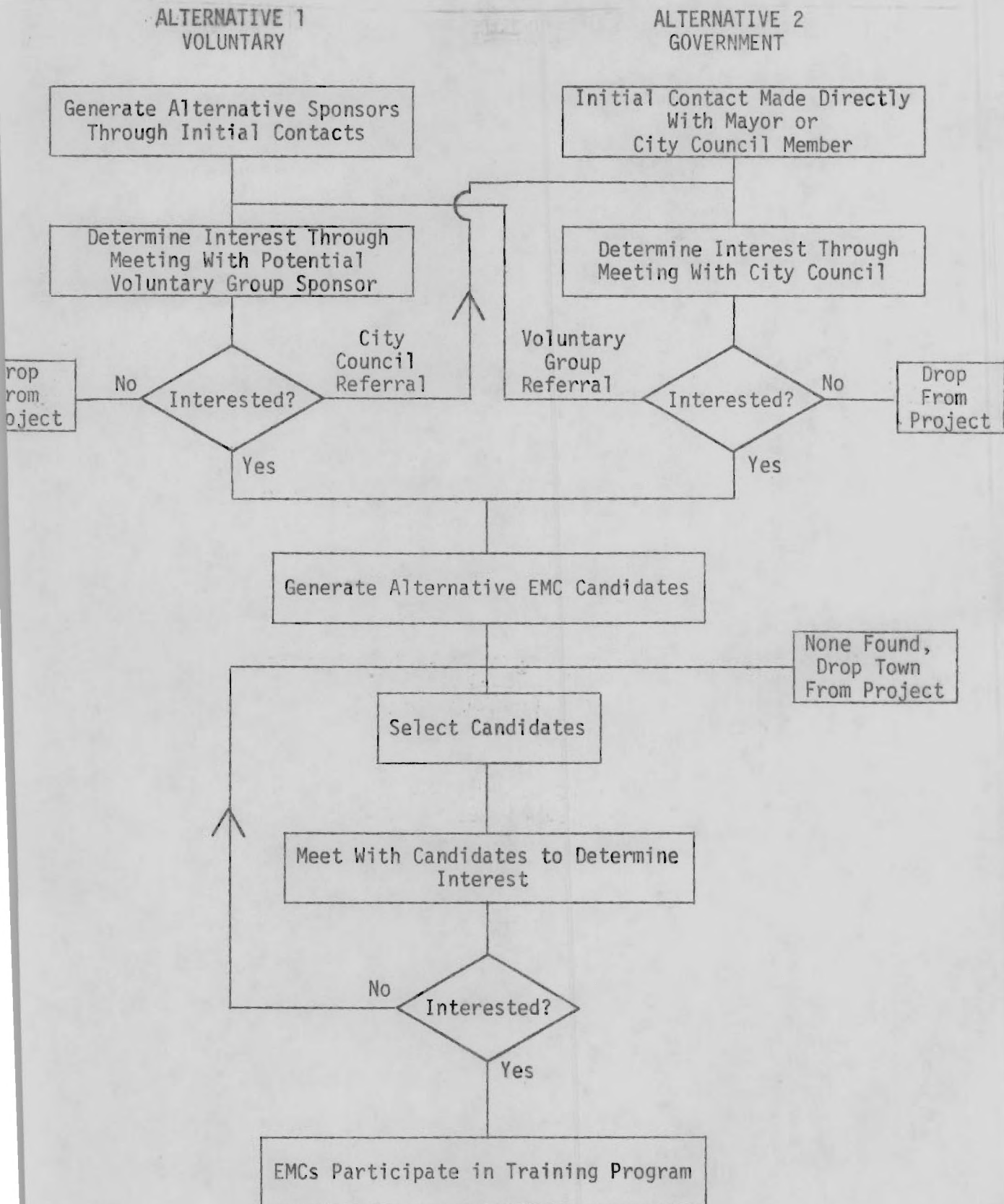
Implementation of the EMC concept in other areas of the country most likely would be the responsibility of a state or regional EMS organization. Such agencies would be faced with organizing volunteer selection in a large number of communities within the constraints of time, staff, and budget limitations. Identifying the most cost-effective program implementation procedure thus assumes considerable importance. A critical step in this process is the identification of people who can adequately fill the EMC role of coordinator-educator-first responder. Such persons are best known by their fellow community residents. Therefore, it is conjectured that the extent to which decisions to participate in the program and select EMCs are handled within the community may influence the utilization of a volunteer system.

Two alternative organizational approaches for selecting volunteers were evaluated. These were: (1) EMC selection by a voluntary civic group and (2) EMC selection by the Mayor and City Council. These approaches were chosen to test assumptions about working through formal, structured, public leadership as opposed to using voluntary, special interest leadership structures as the best way to select the EMCs. An outline of the protocol involved in each alternative is described in Figure 1.

All communities met the following community selection criteria for inclusion in the project: (1) a population of 2000 or less, (2) no practicing physician within the town, and (3) no ambulance service within a radius of five miles of the town. The criterion of no physician was used to avoid any project resistance. It should be noted, however, that many physicians would be expected to welcome this EMC concept.

Figure 1

EMC SELECTION PROCESS



All communities were stratified by population size into three groups described here as "A," "B," and "C" towns (A-150-350, B-351-799, C-800-2000) and were randomly assigned to control and experimental groups. In addition, experimental towns were randomly assigned to EMC selection alternative 1 or 2--voluntary or governmental.

The population criterion was established as a result of practical constraints associated with the project. It was determined that towns over 2000 generally had an ambulance service within town and those of 150 and below would probably not generate the amount of case data necessary for the study.

Project staff members personally visited the experimental towns. For alternative 1, a modified reputational approach was used to identify community leaders and active community organizations through brief, informal visits with such persons as the town post office clerk, a school principal, a grocery store proprietor and other similar, readily available persons. These visits allowed project staff to select the most active and representative community group in town. Once this selection was made, the leaders of each group (e.g., PTA, Lions Club, Volunteer Fire Department) were contacted and an agreement was made to arrange a presentation by project staff to the entire group to generate interest.

At the initial meeting with the voluntary civic group (alternative 1) or the City Council (alternative 2), the project was explained, a set of guideline criteria for EMC selection was outlined, and a commitment to participate was sought. The actual selection process varied with each community. Some communities preferred to have people apply formally, while in other communities (particularly small ones), the process was unstructured and informal. Whatever its form, the process was monitored by project personnel. The two alternative community approaches were evaluated on the following four points: (1) decision by a community to participate, (2) financial commitment to the project, (3) the degree to which volunteer selection criteria were met, and (4) the existence of a continuing support system within the community.

The decision to participate occurred generally after the first or second contact (see Figure 1). If the group agreed to become the sponsor organization or identified a group that would, the process of selecting two EMCs began. If no organizational interest was found, the community was generally dropped from participation.

Financial commitment refers to one condition of participation: project funds were used to purchase one first aid kit for one of the volunteers while the community was asked to purchase the second kit for the second volunteer. This meant an outlay of approximately \$230 and entailed group activity and organization in some communities to acquire this money. For example, in one community the Lions Club accepted the responsibility of selecting the EMCs and buying the first aid kit. The Club organized a bake sale (directing their wives to bake) to raise money for the kit. In another town, the sponsoring group had enough money in its treasury for the purchase and simply voted to sanction the expenditure of funds for the purchase of the kit.

All communities were encouraged to use a set of EMC selection criteria developed by the project staff regardless of the mechanism of volunteer selection (see Figure 2). The project evaluation ultimately sought to determine whether these criteria were sufficient to assure the selection of a person who (1) could master necessary first aid skills, (2) was called by community residents when emergencies occurred, and (3) could respond appropriately when called. These aspects are discussed in Chapter IV.

Figure 2

EMERGENCY MEDICAL COORDINATOR SELECTION CRITERIA

The candidate:

1. has a private telephone
2. has a car available at all times
3. is in good physical condition
4. works in the community (if employed)
5. is a long-time resident of the community
6. is competent to learn the necessary skills
7. is respected in the community
8. wants to be an EMC

The existence of a community support system suggests the likelihood of an ongoing, viable emergency response system once the formal project evaluation is completed. This was measured by involvement of the sponsor group in selecting the EMC, community awareness of the EMC program through telephone surveys, and community involvement in EMC-related activities during the implementation period.

The assessment of these four evaluation criteria employed two major data collection activities. First was the data collected by the five project staff members assigned to the individual communities. Each staff member was in charge of documenting the approach process for an assigned set of communities and the subsequent EMC selection through the use of dictated diaries. Every contact, personal visit, and telephone conversation, as well as local media announcement was documented in the diary. Second, randomized household telephone surveys were conducted in all EMC and control communities. The telephone surveys were employed at three points during the project: (1) after community selection but before any contact with communities occurred, (2) three months after EMCs completed the first aid training program, and (3) thirteen months after the training program. The surveys were designed to assess changes in community awareness and support for the EMCs. An activity log was also kept by individual EMCs and was used to supplement the community support information from the telephone surveys.

Decision to Participate

A total of forty-eight towns were initially identified as the experimental group. To facilitate project staff travel to the communities, sites were selected which were within a ninety-minute travel time radius from Atlanta, yet which were beyond the suburban "bedroom communities" surrounding the City. Twenty-one were approached through the voluntary, special interest leadership and twenty-seven communities through the Mayor-City Council leadership, alternatives 1 and 2 respectively. Thirty-six communities agreed to participate. The names and locations of these communities are depicted in Figure 3.

Communities were assigned to one of five project staff members whose responsibilities included making initial contacts and explaining the program. The actual process involved driving into town, visually locating distinctive features which might help identify leadership figures or organizations, then talking with individuals who were in a position to identify parties which might be interested in the program.

Case studies illustrating this process have been developed (see Appendix A). The cases represent actual communities and illustrate contrasting consequences of the implementation approach.

Table 1 shows the results of the initial solicitation by project staff as a function of approach. Twenty-one communities (77.8%) approached through the Mayor-City Council structure were able to identify a sponsor organization and select EMCs. Fifteen communities (71.4%) approached through voluntary leadership structures were able to identify a sponsor organization and, subsequently, EMCs. These differences in the two selection alternatives were not statistically significant.

Table 1

COMMUNITY PARTICIPATION AS FUNCTION OF APPROACH

	Voluntary		Government	
	Number	Percent	Number	Percent
Towns participating	15	71.4	21	77.8
Towns which could not find suitable sponsors	2	9.5	3	11.1
Towns which could not find suitable EMCs	4	19.0	3	11.1
Total approached	21	100.0	27	100.0

$$\chi^2 = 0.602 \quad p = 0.74 \quad df = 2$$

Table 2 compares participation as a function of size. Seventy-four percent of size "A" communities (populations between 150-350) identified EMCs and sponsors; 76.9 percent of size "B" communities (populations between 351-799) participated; and 75.0 percent of size "C" communities (populations between 800-2000) participated. These differences were,

likewise, not statistically significant. Thus, participation in the program did not appear to be a function of community size.

Table 2
COMMUNITY PARTICIPATION AS A FUNCTION OF SIZE

	A (150-350)		B (351-799)		C (800-2000)	
	Number	Percent	Number	Percent	Number	Percent
Towns participating	20	74.1	10	76.9	6	75.0
Towns which could not find suitable sponsors	3	11.1	2	15.4	0	0
Towns which could not find suitable EMCs	4	14.8	1	7.7	2	25.0
Total approached	27	100.0	13	100.0	8	100.0

$$\chi^2 = 2.18 \quad p = 0.70 \quad df = 4$$

Although desire to participate did not seem to be affected by community size, size did seem to pose a problem since the pool of potential candidates was restricted in small communities. Although each community was requested to select two EMCs, five towns were able to select only one and seven towns were unable to identify any candidates even though they were interested in participating. All five of the towns who selected only one EMC were size "A" towns as were four of the seven who could find no one. For political reasons, one size "C" community was allowed to select three EMCs. A total of sixty-eight EMCs from thirty-six towns were eventually selected.

Financial Commitment

All thirty communities which had selected two EMCs purchased one first aid kit as requested by project staff. The community with three EMCs purchased two. This was a commitment of \$230 for each of these towns. Project funds were used to purchase the second kit. In the five communities which selected only one EMC, the kit was supplied by the project. Thus, no financial commitment was required initially by these five communities.

Use of Selection Criteria

The mechanism of volunteer selection was left to individual communities and varied in terms of the comprehensiveness with which potential EMCs were solicited and considered. For example, some sponsor organizations held a town meeting, identified willing volunteers, interviewed and screened candidates and then voted. At the other extreme, volunteers were selected because they were the only persons willing to be EMCs or were the only ones meeting some or any of the selection criteria regardless of the method of selection. (Appendix A.) Even though the communities used different procedures in selection, the list of staff-developed selection criteria of Figure 2 was presented to the community groups and they were encouraged to use these criteria.

In terms of establishing an effective implementation protocol, it is important to know whether communities can meet such selection criteria. In terms of evaluating program outcome, it is additionally important to know whether such selection criteria are sensitive indicators for choosing effective EMCs. This second question is addressed in Chapter IV, "EMC Performance." In terms of the implementation phase of the project, however, an assessment of the practicality of the selection criteria is presented here. Table 3 examines the extent to which communities were able to select EMCs which met selection criteria.

Selection criteria were examined as a function of organizational approach and as a function of the population size of the community. Socio-demographic and attitude questionnaires completed by the EMCs, along with a first-aid training examination, were used in obtaining the information in Table 3. Criteria numbers 1-5 could be determined by a single question from the socio-demographic questionnaire. Numbers 6, 7, and 8 were more complex and were assessed using multiple items abstracted from the attitude questionnaire, the biographical information supplied by EMCs, and scores on the training session examination. For example, competency to learn necessary skills required of an EMC was assessed by the amount of formal education completed, by previous medical training and experience, by training session test

TABLE 3

MEETING SELECTION CRITERIA AS A FUNCTION OF PROGRAM IMPLEMENTATION APPROACH AND COMMUNITY SIZE

Criterion	Approach					Community Size						
	Public (N=33)*		Voluntary (N=30)		Signif.	A (150-350) (N=34)		B (351-799) (N=16)		C (800+) (N=13)		Signif.
	n	percent	n	percent		n	percent	n	percent	n	percent	
1. Has private telephone	31	93.9	30	100.0	N.S.	33	97.1	16	100.0	12	92.3	N.S.
2. Owns a car	33	100.0	30	100.0	N.S.	34	100.0	16	100.0	13	100.0	N.S.
3. Is in good physical condition	33	100.0	30	100.0	N.S.	34	100.0	16	100.0	13	100.0	N.S.
4. Residence less than one mile from center of town	25	75.8	17	56.7	N.S.	19	55.9	12	75.0	11	84.6	N.S.
5. Workplace located in town	17	51.5	15	50.0	N.S.	18	52.9	8	50.0	6	46.2	N.S.
6. Is competent to learn skills:												
a. Education, average years	12.6		12.4		N.S.	12.8		12.4		11.8		N.S.
b. Previous medical training	n=13	39.4%	n=21	70.0%	p<.03	n=24	70.6%	n=6	37.5%	n=4	30.8%	p<.05
c. Training exam score	92.3%		92.0%		N.S.	94.1%		91.8%		87.6%		p<.01
d. Perception of competency (1=strongly agree, 5=strongly disagree)												
"I feel confident I can handle emergency problems."	1.49		1.60		N.S.	1.74		1.50		1.08		p<.01
"I feel uneasy about giving first aid."	3.81		4.24		p<.05	3.94		4.25		3.92		N.S.

TABLE 3 (CONT'D.)

Criterion	Approach			Community Size			
	Public (N=33)*	Voluntary (N=30)	Signif.	A (150-350) (N=34)	B (351-799) (N=16)	C (800+) (N=13)	Signif.
7. Is respected in the community:							
a. Average years lived in community	19.5	14.9	N.S.	17.2	16.6	17.4	N.S.
b. Membership in community groups, average number	1.58	2.07	N.S.	1.59	1.50	2.77	N.S.
c. EMCs selected by community	n=22 66.7%	n=20 66.7%	N.S.	n=22 64.7%	n=10 62.5%	n=10 76.9%	N.S.
8. Wants to be an EMC (1=strongly agree, 5=strongly disagree)							
a. "I am very enthusiastic about the EMC project."	1.42	1.45	N.S.	1.53	1.38	1.25	N.S.
b. "I am very proud to be an EMC."	1.27	1.24	N.S.	1.22	1.31	1.17	N.S.
c. "I find real enjoyment in being an EMC."	1.58	1.62	N.S.	1.59	1.62	1.58	N.S.
d. "I usually volunteer for all community projects which are worthwhile."	2.45	2.24	N.S.	2.37	2.50	2.08	N.S.
e. "I would have liked someone else in my town to have been the EMC."	3.90	3.97	N.S.	3.81	4.12	4.00	N.S.
f. "I felt obligated to become an EMC because no one else would volunteer."	3.45	3.97	N.S.	3.78	3.69	3.50	N.S.

*Five EMCs did not respond to the biographical and attitude survey questionnaires.

scores, and by the EMC's response to items on the attitude questionnaire which dealt with competency to perform first aid skills. "Respect in the community" was assessed by length of residence, number of organizations in which the EMC actively participated and by the number of EMCs who reported they were selected by some method of elimination by the sponsor organization as contrasted with simply volunteering. Desire to be an EMC was assessed using six items on the attitude questionnaire related to desire.

Assessing "respect" or "leadership position within the community" is a multidimensional and time-consuming task. The aim was to identify several proxy measures which were relatively objective and could be used to compare EMCs selected. Thus, length of residence and activity level within the community measure more directly how well the EMC was known. EMCs selected through an elimination process compared with those who volunteered might be more of an indication of the size of the potential candidate pool rather than a measure of "respect." The ultimate objective of this criterion was to identify someone whom residents would feel comfortable in calling during a medical emergency. A further assessment of "respect" is made in Chapter IV, where incident report data are analyzed and the frequency of use of the EMC is examined.

The "typical" EMC was thirty-five years old, white, male, married with three children, and a member of the business community. As can be seen in Table 3, communities selected EMCs who owned cars, were in good physical condition, had completed a high school education, were relatively long-time residents and were enthusiastic about the program and being an EMC. These characteristics were independent of the approach used to organize the program or sponsor type (Pub. or Vol.) in charge of the selection process. All but two EMCs had private telephone lines, on the average indicated that they felt confident they could handle emergency problems at the end of the training session, and scored higher than ninety percent on the written first-aid examination.

Communities were less successful in meeting residence and workplace criteria. About half of the EMCs worked outside their communities. This was true for both organizational approaches. EMCs selected by City Councils tended to reside closer to the center of town than did those selected by voluntary organizations (75.8% compared to 56.7%); however,

these differences were not statistically significant. Voluntary organizations selected EMCs with some medical training (e.g., previous first aid courses, paramedics, etc.) almost twice as frequently as did City Councils (70.0% compared to 39.4%) a difference statistically significant at the 0.05 level. Medical experience was not stated as a selection criterion explicitly, however, and is examined only as one of several indicators of potential competency to learn first aid skills.

A similar set of conclusions was drawn when selection criteria were examined as a function of community size. Only fifty percent of EMCs met the workplace criteria. Differences in workplace among size "A," "B," and "C" towns were not statistically significant. The residence criterion showed a predictable trend as a function of community size. Larger "C" communities were able to meet this criterion 84.6 percent of the time while smaller "A" communities had to consider residents living farther away and met the criterion 55.9 percent of the time. Size "B" communities represented a middle range of 75.0 percent.

Size "A" communities selected EMCs with previous medical training approximately twice as frequently as size "B" and "C" communities (70.7% compared to 37.5% and 30.8% respectively), a difference significant at the 0.01 level. An explanation for this difference could relate to better knowledge of individual residents in the smaller size "A" communities with a tendency to select those with prior first aid experience.

Community size differences were also reflected in scores on the training examination and in perceptions of confidence in handling emergency problems. EMCs from "A" communities scored highest on the exam (94.1% compared with 91.8% and 87.6% for "B" and "C" communities), a difference significant at the 0.01 level. This is possibly due to the higher percentage of prior medical training in "A" communities. Interestingly, EMCs from "A" communities felt relatively less confident than their counterparts about handling emergency problems. Their mean rating on a five-point scale of the statement, "I feel confident I can handle emergency problems" was 1.74 compared with 1.50 and 1.08 for EMCs from "B" and "C" communities (1=strongly agree, 5=strongly disagree), a difference significant at the 0.01 level. One possible explanation is that those with prior medical training and experience may have a

greater appreciation of the complexities of emergency medical conditions and therefore feel less confident than the others in the program.

Community Support

An assessment of community support for the EMC concept was made by (1) observing the extent of involvement of the sponsor group in volunteer selection, (2) by examining the number of program-related activities organized or supported by the community, and (3) by examining responses to selected questions from the household telephone surveys related to awareness of the EMC program.

Table 4 depicts the degree of involvement of sponsor groups in the selection of the EMCs. Based on project staff observations during the implementation process described earlier, sponsor groups were rated on a scale of "1" (very involved) to "5" (not involved) in the selection process. The degree of involvement refers to the extent to which the

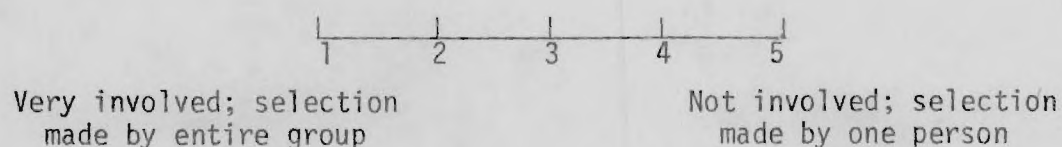
Table 4

RATING OF GROUP INVOLVEMENT IN EMC SELECTION AS A
FUNCTION OF ORGANIZATIONAL APPROACH

Group Involvement Rating	Approach			
	Voluntary		Government	
1 & 2	13	87%	7	33%
3, 4, & 5	2	13%	14	67%
Total	15	100%	21	100%

$$\chi^2 = 8.04 \quad p = .0046 \quad df = 1$$

Rating Scale:



sponsor group identified and agreed on appropriate community residents for consideration as EMCs. Ratings "1" and "2" represented sponsor group involvement as a group, whereas ratings "3" through "5" represented ever decreasing community involvement and were characterized by

largely one person selecting the EMC. The data presented here aggregate ratings "1" and "2" representing "group" involvement and "3" through "5" representing largely "single" person involvement in the selection. It should be noted that project staff encouraged the communities to make the selection as a group in order to achieve a greater probability of acceptable EMCs.

According to data in Table 4, voluntary groups (alternative 1) were more involved as groups in the EMC selection process than were governmental sponsor groups (alternative 2). Project staff rated eighty-seven percent of the voluntary organizations as "1" or "2" on the involvement rating scale. This compared with thirty-three percent for governmental sponsor groups. Rating differences were statistically significant at the .005 level.

The degree of involvement appeared also to be a function of the proximity of an ambulance service to the community. As part of initial inclusion in the project, each community had to be located at least five miles from a neighboring ambulance service. These data are shown in Table 5.

Table 5

RATING OF GROUP INVOLVEMENT IN EMC SELECTION
AS A FUNCTION OF AMBULANCE DISTANCE

Group Involvement Rating	Miles from Community to Ambulance		
	5-7	8-14	15 & Up
1 & 2	2 22.2%	13 61.9%	5 83.3%
3, 4, & 5	7 77.8%	8 38.1%	1 16.7%
Total	9 100%	21 100%	6 100%

$$\chi^2 = 6.27 \quad p = .022 \quad df = 2$$

The group involvement rating was compared with the distance to the nearest ambulance. Only two communities out of nine (22%) were rated "1" or "2" in which the neighboring ambulance was located seven miles or less from the community. For the six communities at fifteen or more miles from the ambulance service, five of these (83%) achieved a "1" or "2" rating. These differences are significant at the 0.05 level. This suggests that perception of need and subsequent involvement in EMC

selection are affected by ambulance distance. Certainly one interpretation of these data would be that communities which experience larger response times associated with greater distance to ambulance services have experienced a greater number of emergency occasions which ended in unsatisfactory outcomes. It does not take many such occasions before the need for an improvement in the existing system becomes a matter of collective concern. This could result in greater group involvement in selecting the EMCs and supporting the project.

The second measure of community support referred to the number of program-related activities reported by EMCs. The degree of activity was examined as a function of organizational approach. While such activity may be an indicator of the EMC's initiative and enthusiasm, it also describes, in part, community support for these activities. Data were collected from activity logs kept by EMCs during the first five months of program operation. Each EMC listed the number of organized activities he/she was involved with as specified by three categories:

(1) skills, referring to activities which used first aid training directly (e.g., blood pressure screening clinics which served as a way to introduce the community to the program); (2) media, referring to newspaper articles and radio interviews; and (3) invited presentations to community groups concerning the project.

Fourteen EMCs (42.4%) with local government groups as sponsors (alternative 2) had made at least one presentation about the program as compared to twenty EMCs (66.7%) with voluntary organizations as sponsors (alternative 1). Eleven EMCs (36.7%) with local government sponsors had conducted at least one blood pressure screening clinic as compared with twelve (40.0%) with voluntary group sponsors. Sixteen EMCs (48.5%) with local government sponsors had provided publicity about the program through local media as compared with eleven (36.7%) with voluntary group sponsors. The average number of activities per EMC for alternative 1 was 3.1 compared with 3.2 for alternative 2. In terms of total program related activities, no significant differences were observed as a function of organizational approach. (Differences as a function of EMC characteristics are discussed in Chapter IV.)

The third measure of community support examines a community's awareness of the role the EMC could fill and its willingness to use the EMC in the case of an emergency incident. Measurements were made using a household telephone survey administered at three points in time: one month before the experimental group communities were contacted, three months after the program was implemented, and 13 months after implementation. Trained interviewers conducted telephone interviews with a random sample of households drawn from control and experimental groups. A seven percent sample of households was drawn from each community for each survey and grouped in the three population size categories mentioned previously: (A) 150-350 persons, (B) 351-799 persons, and (C) 800+ persons. Total sample size for each of the surveys (omitting incomplete interviews) was: Survey 1, 269 households, Survey 2, 325 households, and Survey 3, 315 households. Copies of the surveys are in Appendix B.

The dependent variable was measured by a series of four questions which described situations of increasing medical seriousness. They were of the form:

"Suppose (incident described). Would you seek help from anyone about this? (If yes) Who would you call first?"

The incidents were: (1) having a head cold for two days, (2) having a sore throat for a week, (3) observing a car accident in which someone was seriously injured, and (4) observing a neighbor's accident in which s/he was chopping wood and deeply cut his/her leg. While incidents (1) and (2) addressed situations which could be adequately handled by self-care or a regular source of medical care, the situations described by incidents (3) and (4) indicated that some emergency care was necessary. Responses could thus distinguish between a willingness to use a first responder type, a willingness to use the EMC, and awareness of the most appropriate use of the EMC.

The telephone surveys revealed a significantly higher willingness to use a first responder in experimental communities after the EMC program was implemented. Table 6 depicts a comparison between the control and experimental group responses to the question "Suppose your neighbor was chopping wood and deeply cut his leg... would you seek help? (If 'yes') who would you call first?" as a function of three points in time (5). A response indicating a first responder "type" (i.e., fire or police department)

was acknowledged for both control and experimental groups for Survey 1. A response indicating the name of the local EMC was acknowledged exclusively as "first responder" for the experimental group for Survey 2 and Survey 3. Control group responses were tabulated as "first responder" if they identified a first responder "type" for the second and third surveys. In the following discussion, comparisons between control and experimental group and subgroups of the experimental group are made with regard to this question, subsequently referred to as "willingness to use a first responder system."

Table 6

COMMUNITY ATTITUDES TOWARD USING A FIRST RESPONDER

QUESTION: Suppose your neighbor was chopping wood and deeply cut his leg; who would you call first for help?

	Survey 1 (N=276)				Survey 2 (N=325)				Survey 3 (N=315)			
	Experimental		Control		Experimental		Control		Experimental		Control	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
First Responder*	5	3.0	2	2.0	29	14.1	1	0.8	23	11.7	3	2.5
All Others**	162	97.0	105	98.0	177	85.9	121	99.2	173	88.3	119	97.5
Totals	167	100.0	107	100.0	206	100.0	122	100.0	196	100.0	122	100.0
$\chi^2=0.034$ df=1 p=.422 $\chi^2=14.6$ df=1 p=.00005 $\chi^2=7.43$ df=1 p=.0032												

*Responder includes police and fire department for Survey 1 and police, fire department, and EMC for Surveys 2 and 3.

**Other includes doctor, ambulance, hospital, relative, friend, and telephone operator for all three surveys.

Statistically significant differences between groups (Chi-squared, 1 tailed test, $p < 0.0001$, Survey 2 and $p < 0.005$, Survey 3) were observed for both post-intervention measurements. Experimental group respondents identified the first responder system in 14.1 percent of the cases for Survey 2 and 11.7 percent of the cases for Survey 3 as compared with 0.8 percent and 2.5 percent respectively for controls. The null hypothesis "There is no difference between experimental and control communities with regard to willingness to use a first responder system in an emergency situation" is accepted for the pre-intervention measurement and is rejected for both post-intervention measurements.

When the experimental group was disaggregated into groups of communities which had been organized through Government or Voluntary group approaches, no statistically significant differences appeared when responses to the same question were compared for these groups for each of the three telephone surveys.

Cost

The cost involved in program implementation can be estimated by the time required for initial community organization and by equipment and initial training costs. An average of three visits per community were made by project staff over an eight-week period to organize the selection. Visits were reinforced with an average of three telephone calls per community to answer questions and guide the selection process. Included in these averages are towns which eventually did not participate, approximately one-fourth of the original sample. Staff members were each in charge of from six to twelve communities and found it possible to visit up to six on a single day-long trip. Travel distance could correspond to organization on a regional basis through health districts, EMS councils, or similar organizations.

Cost for equipment included \$460 for two first aid kits per community which were shared equally between project funds and the communities. Direct training costs were approximately \$220 for each EMC. This included room, meals, instructors and equipment charges for two week-end long sessions. These expenses, training costs for three refresher training sessions (each approximately half that of the initial training session), along with time spent by volunteers in EMC-related activities, are the major costs for the entire three-year program.

Table 7

COST ESTIMATES OF REGIONAL IMPLEMENTATION

Staff	1 Person-half time
Staff Travel	Variable
2 Kits per Community	\$230 per kit
Training Program	\$220 per EMC
Refresher Training (2 per year)	\$110 per EMC per session

Summary

Evaluation of the implementation phase of this project focused on three questions: (1) What is the most efficient way of identifying EMCs who meet project selection criteria?; (2) To what degree do EMCs meet the specified project selection criteria?; and (3) What are community size and organizational characteristics associated with project support?

Two approaches to organizing communities to select EMCs were tested: (1) working through community government and (2) working through voluntary community organizations. Data show that there were no differences in the communities' ability to select EMCs who met project selection criteria as a function of these two approaches. This outcome is reinforced by work reported by Perlstadt and Kozak who noted that for small rural towns, intracommunity cooperation and commitment is strong and leadership structures of both public and voluntary groups share similar characteristics.

Data show that there were no statistically significant difference in either community awareness or support for the program as a function of approach. However, there occurred greater sponsor group involvement in the selection of EMCs within voluntary groups as contrasted with government groups and this difference was statistically significant. Presumably, greater sponsor group involvement in the selection process is desirable, particularly if it is a predictor of long-term program support by the entire community. In terms of initial community awareness and support, however, the two approaches result in similar outcomes as measured by this evaluation. Such outcomes could be modified by the community's perception of the need for emergency services. Staff found it more difficult to motivate communities to participate when those communities were relatively near a neighboring ambulance service.

Data show that communities were able to select EMCs who meet selection criteria and this outcome was independent of community size. Smaller communities did appear to have greater difficulty in initially finding volunteers, but once they were identified, they met project criteria. Five out of twenty participating size "A" communities were able to identify only one EMC, however, and seven of the total sample of forty-eight initially approached dropped out for primarily this reason. Four of these seven had populations of less than 350. It should be noted that in each of the three tests above, sample sizes are small and outcomes should be interpreted with caution.

CHAPTER III

EMC TRAINING AND SYSTEM INITIATION

This chapter contains three sections: (1) a description of the training program (including refresher training sessions) which was designed for the EMCs, (2) an evaluation of this training program, and (3) a brief description of the initiation of the program.

The Training Program

The training program consisted of an initial forty-hour program in which first aid skills were taught followed by three refresher training programs covering specific subject areas at approximately six-month intervals.

Initial Training Program

The original study design included a training program of forty hours to teach basic stabilization skills at the level of the Red Cross' "Advanced First Aid and Emergency Care" or the U. S. Department of Transportation's "Crash Injury Management." The training program was conducted during the second and fourth weekends in July of 1978 at the Century Center Hotel in Atlanta. The use of two intensive weekends for the training was necessary to allow all EMCs the opportunity to access training without having to be away from their regular weekday jobs. The schedule also allowed a break between the first and second weekends so that the schedule would be less hectic and the EMCs would have time for review and study between sessions. Each weekend session began on Friday evening and concluded on Sunday afternoon, and provided about twenty hours of lecture and practical training.

The text for the course was Emergency Care by Grant and Murray used in conjunction with the associated self-instructional workbook. These materials were sent to the EMCs prior to the beginning of the course and each EMC was expected to have read the assigned text and material and completed the associated workbook material prior to each training session.

The training consisted of lectures to the group as a whole interspersed with films, demonstrations, small group discussions, and hands-on experience with life-saving techniques. The lectures were presented by Judge Arthur M. Kaplan who is an attorney and judge of the Municipal Court

of the City of Atlanta. Judge Kaplan has been a volunteer instructor in first aid for over 30 years and has received seven Certificates of Merit awarded by the Red Cross and signed by four U. S. presidents. These certificates are awarded for rendering lifesaving first aid.

Judge Kaplan is an exceptional teacher and makes use of elaborate demonstrations to describe certain emergency techniques. At one point in the training, three screaming women ran into the classroom pursued by a man with a gun. The class sat stunned as the gunman fired blanks at the women who fell to the floor. The gunman escaped and the students found themselves with three simulated gunshot victims to treat. On another occasion, Judge Kaplan took the class out to the pool for water safety instruction.

In addition to Judge Kaplan, individual instructors were utilized for small groups of approximately ten EMCs each for the hands-on practice portion of the training. Each EMC was therefore a participant rather than a spectator. The emphasis of this part of the course was learning by doing.

The total course emphasized the basic stabilization skills such as airway maintenance, hemorrhage control, CPR, treatment of shock, treatment and management of fractures, extrication, emergency childbirth, and others. A complete outline of the course is presented in Figure 4.

The training program was designed to provide significant recognition for the EMCs in conjunction with the other recognition activities which occurred during the grant period. The hotel, while modest in price, was a modern contemporary hotel with comfortable surroundings. All basic hotel expenses were paid by the project. Thus, while the EMCs worked hard during training, the hotel provided a type of vacation atmosphere for the EMCs. The final night of the primary EMC training program concluded with a banquet and featured such speakers as John Pruitt, news anchorman for WXIA-TV (NBC); Wayne Schumann, Director of the Georgia Department of Human Resources' Division of Emergency Health Services; Chris Wiggall of Congressman Wyche Fowler's office; and Judge Kaplan.

During the banquet, the EMCs were presented with several items including the certificate of completion of the DOT "Crash Injury Management" awarded by the Atlanta Area Technical School and the American

EMC TRAINING PROGRAM

SESSION I

Agenda

<u>Date</u>	<u>Day</u>	<u>Time</u>	<u>Item</u>	<u>Pages</u>
July 14, 1978	Fri.	6:00- 7:00	DINNER - Registration	
		7:00- 8:00	Introduction to Training and Definition of Standards	
		8:00- 9:00	Chapter 1--General Emergency Response of the EMC; Legal Implications	9-14
		9:00-10:00	Chapter 1--Determining the Extent of Injury or Illness	15-26
		10:00	Adjourn	
July 15, 1978	Sat.	7:00- 8:00	BREAKFAST	
		8:00- 8:30	Chapter 1--The Primary Survey	27-29
		8:30- 9:30	Chapter 1--The Secondary Survey and Injury Priorities	29-35, 41
		9:30-10:00	Blood Pressure Techniques Lecture and Demonstration	21-23
		10:00-10:15	BREAK	
		10:15-12:00	Chapter 2--Respiration and Resuscitation Airway and Use of Airways	45-69
		12:00- 1:00	LUNCH	
		1:00- 3:00	Introduction to CPR and Film	71-83
		3:00- 3:15	BREAK	
		3:15- 4:30	CPR Slides and Written Exam	
		4:30- 7:00	Practice--Pulse, Pupils, BP, Primary and Secondary Surveys; Maintenance of Normal and Obstructed Airway and Artificial Respiration	
		7:00- 8:00	DINNER	
July 16, 1978	Sun.	7:00- 8:00	BREAKFAST	
		8:00- 9:00	Demonstration of CPR	
		9:00-10:45	Wounds, Bleeding Control and Bandaging	85-108
		10:45-11:00	BREAK	
		11:00-12:00	Shock	109-117
		12:00- 1:00	LUNCH	
		1:00- 3:00	Practice Session I	
		3:00- 3:15	BREAK	
		3:15- 5:15	Practice Session II	
		5:15- 6:00	Review CPR Test and Answer Questions	

EMC TRAINING PROGRAM

SESSION II

Agenda

<u>Date</u>	<u>Day</u>	<u>Time</u>	<u>Item</u>	<u>Pages</u>
July 28, 1978	Fri.	6:00- 7:00	DINNER	
		7:00- 8:30	Chapter 5--Soft Tissue Injuries	119-147
		8:30-10:00	Chapter 6--Injuries to Skull, Brain, Neck and Spine	149-172
		10:00	Adjourn	
July 29, 1978	Sat.	7:00- 8:00	BREAKFAST	
		8:00-10:45	Chapter 7--Injuries to the Extremities	173-206
		10:45-11:00	BREAK	
		11:00-12:00	Chapter 8--Medical Emergencies	207-221
		12:00- 1:00	LUNCH	
		1:00- 2:00	Chapter 8--Poisoning	221-234
		2:00- 3:00	Chapter 8--Handling Mentally Disturbed Persons	235-237
		3:00- 3:15	BREAK	
		3:15- 6:15	Splinting Practice: Four Groups (1) Board, (2) Traction, (3) Air, (4) Spine Boards	
		6:15	RECESS	
		7:00- 8:00	DINNER	
July 30, 1978	Sun.	7:00- 8:00	BREAKFAST	
		8:00- 9:00	Chapter 8--Burns	238-244
		9:00-10:00	Chapter 8--Environmentally Caused Emergencies	245-250
		10:00-10:15	BREAK	
July 30, 1978	Sun.	10:15-10:45	Chapter 8--Dyspnea	251-253
		10:45-12:00	Drowning	253-256
		12:00- 1:00	LUNCH	
		1:00- 2:30	Chapter 9--Emergency Childbirth	265-287
		2:30- 2:45	BREAK	
		2:45- 4:00	Chapter 10--Handling Sick or Injured Patients	289-311
		4:00- 5:00	Final Exam	
		5:00- 7:00	Incident Reports and Project Monitoring Review of Exams Session Wrap-Up	
		7:00	ADJOURN	

FIGURE 4

National Red Cross' certificate for "Advanced First Aid and Emergency Care." In addition, they were presented a fully embroidered cloth arm patch with the EMC logo, an EMC decal which was designed to personalize their first aid kit, and a metal reflective EMC auto tag for mounting on the front of their car. Since Georgia is a one-tag state with the license plate on the rear of the car, the EMC tag provided instant recognition for an arriving EMC at the scene of an accident or illness.

An EMC newsletter was periodically published to serve as a communication vehicle among EMCs and provide news to EMCs from the staff. Copies of these newsletters are included in Appendix C.

Refresher Training

After the initial training, three refresher training programs were held at approximately six-month intervals. Outlines of these refresher training sessions are shown in Figure 5.

The first refresher training program centered around updates and discussions of cases encountered in the first few months of activity. In addition, an intensive CPR review and certification was conducted.

The second refresher training program was devoted to a CPR instructor training course which allowed the EMCs to not only give CPR but to teach CPR in their communities. The session also gave the EMC staff the opportunity again to interact with all EMCs and to keep up with recent EMC activities.

The third and final refresher training program was primarily concerned with first aid recertification. This weekend session updated the EMCs' American National Red Cross cards for three more years.

The refresher sessions also allowed the staff to provide additional recognition and emotional support for the EMCs. The staff, on one occasion, borrowed the identification card equipment from the Georgia Tech Dean of Students and made special, picture, EMC identification cards with the equipment and a special template designed with the EMC logo. A special certificate was designed and awarded for EMCs who performed a life-saving act for a critical patient. Eleven of these were awarded at the first retraining session. The "special" awards and events are highlighted in the EMC newsletter previously mentioned (Appendix C).

EMC REFRESHER TRAINING COURSE

AGENDA

Friday 26 January (evening)

6:00-6:30	Registration at Century Center
6:30-7:30	Dinner
7:30-9:00	Review and update of legal implications and EMC responsibility
9:00-10:30	Discussion of unusual first aid problems and situations

Saturday 27 January (morning)

7:00-7:45	Breakfast
8:00-9:30	CPR review
9:30-9:45	Coffee break
9:45-12:30	CPR practice (with instructors in small groups)
12:30-1:15	Lunch

Saturday 27 January (afternoon)

1:30-2:50	Review of selected first aid topics
2:50-3:05	Coffee break
3:05-4:30	First aid practice (with instructors in small groups)
4:30-5:00	Concluding remarks
5:00	Adjourn

AGENDA

EMC RECERTIFICATION TRAINING SESSION

Friday, May 16

6:00- 7:00	Dinner and Registration
7:00- 8:00	Primary and Secondary Survey
8:00- 8:45	Emergency Care Questions and Answers
8:45- 9:00	Break
9:00-10:00	Small Group Meetings with EMC Staff
10:00	Adjourn

Saturday, May 17

7:00- 8:00	Breakfast
8:00- 9:45	EMC Project Meeting
9:45-10:00	Break
10:00-11:00	Airway Maintenance and Handling Unconscious Victims
11:00-12:00	Bleeding Control
12:00-12:30	Checkout
12:30- 1:30	Lunch
1:30- 2:30	Handling Emotionally Disturbed Persons
2:30- 3:30	Emergency Childbirth
3:30- 3:45	Break
3:45- 5:30	Fractures and Splinting
5:30- 6:00	Break and/or Review Questions
6:00- 7:00	Written Exam
7:00- 8:30	Dinner and Presentation of Certificates
8:30	Adjourn

FIGURE 5

Evaluation of Training

In this section concerning evaluation of the training program, three areas are discussed: (1) performance of EMCs during training, (2) attendance of EMCs during training, and (3) critiques of the training sessions by the EMCs.

Performance of EMCs

After the initial forty-hour training program, a written exam was administered to the EMCs. This was a comprehensive exam testing their knowledge of the various emergency conditions which might be encountered and the proper techniques to be administered in each instance. The scores are shown in Table 8. The maximum possible score was 102 and the minimum possible was 0. It can be seen that all but three EMCs scored eighty percent or higher and eighty-three percent scored above ninety.

Table 8
SCORES ON THE TRAINING EXAM

Range	Number	Cum. Percent
61- 65	1	1.5
66- 70	2	4.6
71- 75	0	4.6
76- 80	0	4.6
81- 85	1	6.2
86- 90	7	17.0
91- 95	20	47.7
96-100	27	89.3
101-102	6	100.0

The exam score was examined by means of t-tests to determine what relationships existed between score on the exam and other variables. Three of these relationships are shown in Table 9. It is seen that the younger EMCs scored higher, the females scored higher than the males, and those with educations beyond high school scored higher than those with a high school education or less. However, none of these relationships proved to be statistically significant. If the exam had been made much more rigorous, the scores may have had a greater spread

rather than the vast majority having been between 91 and 102, as Table 8 indicates. This greater spread in scores might have shown some relationships between score and other EMC variables. However, the use of the exam was to demonstrate some threshold level of knowledge felt to be necessary in performing as an EMC, so there was not an attempt to develop an exam which would comprehensively examine the depths of knowledge of first aid theory and practice.

Table 9
MEAN EXAM SCORE RELATED WITH OTHER VARIABLES

Variable	Cases	Mean Exam Score	Significance
Age 17-34	34	93.3	N.S.
Age 35-59	31	92.0	
Sex--Male	40	91.4	N.S.
Sex--Female	25	94.7	
Education--High School or Less	41	92.4	N.S.
Education--Beyond High School	24	93.2	

The EMCs also took a practical exam which demonstrated proficiency in performing the various first aid tasks. All EMCs passed this practical proficiency examination.

The second refresher training session was the only one of the three which had a formal assessment of EMC skills. The second refresher training session was dedicated to training and certification of the EMCs as CPR Instructors by the Red Cross. All EMCs except two who were in attendance passed the CPR Instructors Exam. The attendance in this session, however, was lower than anticipated and there was considerable speculation that those EMCs who felt that they could not pass the CPR Instructors Course did not attend. Thus, there might have been some self-selection during the second refresher training program.

Attendance During Training

In evaluating the training program, the attendance of the EMCs was monitored as an indicator of interest in the program. All EMCs attended the first and second weekends which comprised the initial training program with the exception of one EMC who missed the first weekend. This EMC was

given special instruction in order to keep her in the program. The refresher training programs, however, began to show some attrition. It was realized that some EMCs would drop out of the program after the training for various reasons including moving away from their communities. It was found that thirteen EMCs did not attend any of the three refresher training programs. If these thirteen are not considered, the first refresher training program had forty-nine attendees or eighty-nine percent, the second had forty-two attendees or seventy-six percent, and the third had thirty-nine attendees or seventy-one percent. Reasons for these absences will be considered in greater detail in Chapter IV. However, there were six EMCs (in addition to the group of thirteen above) who had moved out of their communities by the end of the third refresher training program. This accounted for eleven percent of those who should have been in attendance at the third training session.

EMC Critiques of the Training

The EMCs were asked to submit critiques of the training sessions and these were highly favorable. The EMCs were pleased with the instructor, the hotel, the weekend format, the structure of the sessions, etc. The few negative comments largely concerned a few of the EMTs used as instructors in the practice sessions. While these instructors were technically competent, their teaching skills were somewhat variable.

The EMCs also were interested in more interaction with actual emergency cases. Some EMCs were accompanied by the instructor on a visit to the local trauma center and on a few calls with the local ambulance service. The EMCs found this exposure valuable and felt that more of these experiences should be part of the training program. The logistics, however, of planning this type of experience for sixty-eight EMCs on a given weekend were prohibitive.

System Implementation

The EMCs were given specially-prepared booklets developed by the project called "The EMC's Action Data Pak." These booklets, included in Appendix D, were designed to lead the EMCs through a step-by-step process of identifying appropriate adjunct resources in their home areas. These resources include emergency resources such as the local physicians, ambulance services for the area, police, sheriff, and other public service agencies. Nonemergency resources include various agencies and organizations which

should be of help in publicizing the EMC program such as the local radio stations, television stations, newspapers, local civic groups which have regular meetings, and others. The Action Data Pak therefore served as a workbook which the EMCs filled out and kept as an informational resource. One completed copy for each community was also returned to the project staff.

Based upon this information, the project had telephone stickers printed with the ambulance number and the EMC numbers for distribution by the EMCs in each community. The information on the stickers was community specific for each community in the study. Each sticker had the community name followed by "Medical Emergencies, First Call (the local ambulance) Then Call (the EMCs with day and night numbers listed)."

The goal was to place a sticker on each telephone in the community. The EMCs were given suggestions regarding methods to accomplish this but project staff left the details of distribution to the individual EMCs. The staff did however monitor the progress and methods of the EMCs in distributing these stickers to the community.

The distribution of phone stickers served as a publicity activity for the program in addition to the physical distribution of stickers. The EMCs were encouraged to seek other opportunities for publicity of the program. One of these was a presentation of the EMC program before local civic groups and other community gatherings. Since the EMCs are not trained public speakers, the staff had a slide-tape presentation prepared which described the EMC program and how to access the system. The slide-tape presentation was approximately ten minutes long and was entitled "EMC--Three Little Letters that Spell Ready." The presentation tells the EMC story by dramatizing a day in the life of an EMC. The EMC story is a fictional account of an elementary school teacher who also is trained as an EMC to respond to emergencies. This presentation is the second of two developed for the project. The first one entitled "What Happens Now" was used by the staff to help gain initial community endorsement of the program prior to EMC selection. Both of these presentations will be valuable resources for other areas in the country who are interested in EMC implementation.

The availability of the slide-tape presentation thus made it easy to plan and put on a community program which publicized the EMC concept, described the operation of the response system and detailed the training of the EMCs. Several of the EMCs took advantage of these resources to present programs.

Another popular activity to publicize the EMC program was the blood pressure screening booth. The EMCs set up a table in conjunction with a school carnival or related community activity and took blood pressures to advertise the program and their skills. The first aid kit was also normally on display and the EMCs would demonstrate various pieces of equipment. Some EMCs set up blood pressure screening days as a separate activity. The EMCs would typically select a Saturday and set up a screening table at a local business or other public place such as the volunteer fire department. Posters informing the community of the service were prepared and placed in appropriate public places. These again gave the EMCs the opportunity to explain the EMC program as well as providing the blood pressure screening service.

Newspaper articles in each of the county newspapers were utilized as additional sources of publicity. Some of these articles were generated by the project staff which announced the refresher training sessions or other project functions and personalized the article for each county by naming the EMCs located in each specific county. Other articles were generated by the EMCs themselves. Several EMCs were able to get reporters to write a feature story about the EMC program and highlight their individual community. Several life saving or "spectacular" EMC calls were also reported in local papers as routine news articles.

While radio programs were not extensively utilized, there were several occasions of local stations featuring the EMC program. Some brought one or more EMCs in to interview and others interviewed the Georgia Tech project staff by telephone.

These publicity efforts were good but could have been more numerous and more consistent in coverage. The project staff sought to discover to what extent the EMCs would assume personal responsibility for these publicity efforts. The conclusion was that while the EMCs to varying degrees did generate publicity (and a few were quite successful), a more

structured and consistent ongoing publicity campaign is necessary to achieve the level of community awareness desired for a truly successful emergency response system. Therefore, while the staff had hoped that the EMC publicity could be self-generated, it is important that they have help with this at a regional or state level.

During the training program, the EMCs were also taught to use an incident form in order to collect information relating to each incident in which the EMC was involved. This incident form is included in Appendix E and the analysis of the information provided by the incident form is described in Chapter IV.

CHAPTER IV

MEASURES OF EMC PERFORMANCE

This chapter contains four sections, each relating to specific performance studies of the EMCs. The first section describes the emergency incidents to which the EMCs responded. Specific performance measures permitted an assessment of the EMC performance for each incident. The second section describes EMC performance as a health educator. Specific activities accomplished by the EMCs are presented and EMC differences are analyzed. The third section describes EMC attitudes as measured by an attitude questionnaire administered on two separate occasions and relates these attitudes to EMC performance. The final section describes the development of an effectiveness score and its application to the EMCs.

Performance at Emergency Incidents

As described in Chapter III, the EMCs were trained to use an incident form especially prepared for the EMC project. The EMCs were instructed to complete a form for every emergency incident occurring in their community regardless of whether or not they were personally called to help. These reports allowed project staff to gain a clearer picture of the community need for and the utilization of the EMC program. These communities are small and the informal information flow within the community regarding occurrences such as serious illnesses or injuries requiring emergency transportation is frequently very good. The EMCs therefore are likely to hear of emergency situations they were not called to after they have occurred and the details of these occurrences were also sought by the project staff. It was found, however, that while reporting incidents of personal involvement was generally good for all EMCs, they showed variable performance in reporting the incidents with which they were not involved. It was not clear from the reports of these other incidents whether some EMCs were much more attuned to the happenings of the community and therefore knew of the incidents or whether there was some motivational factor involved for some in the reporting of the other incidents.

Table 10 identifies 736 cases which were received over the twenty-two-month data collection period. Of these, 469 cases or sixty-four percent were cases in which the EMCs were called and responded to the scene. Only six percent of the cases reported represented calls to which the EMC did not respond with an additional six percent representing instances in which the EMC was not called. It was within this group, "EMC not called," that project staff found considerable variability in EMC reporting. It was interesting to note that 173 cases were reported in which the EMC was on the scene at the time of the incident. The vast majority of these were nonserious injuries and other minor conditions as will be shown later in this section.

Table 10
NATURE OF EMC RESPONSE

EMC Response	Cases	Percent
Called and responded	469	64
Called; did not respond	42	6
EMC not called	46	6
EMC on scene	173	24
Not known	6	1
Total	736	100

The 469 calls to which the EMCs responded were reported from thirty-two of the thirty-six communities in the study. This represented an average of approximately fifteen cases per community over the twenty-two-month collection period or approximately eight cases per community per year.

While a variety of calls were received by the EMCs over the project period, the EMC concept was designed for those specific cases in which a true emergency situation occurs and the EMC is called to stabilize the patient while an ambulance is on the way. Therefore, a subset of "serious" calls were analyzed by project staff which represented a more accurate measure of the effectiveness of the EMC concept. This subset of cases represented those which met the following criteria: (1) the EMCs were called to help, (2) the EMCs responded

to the scene, and (3) the patients were subsequently transported to the hospital by an ambulance. The cases which met these three criteria totalled 263. Thus, of the 469 cases to which the EMCs responded, fifty-six percent required an ambulance. The following sections represent an analysis of the total 736 cases as well as the subset of the 263 "serious" cases.

Table 11 summarizes the number of cases submitted by EMC and the number of cases submitted by community (generally two EMCs per community). It can be noted that ten EMCs, or about fifteen percent, did not submit a case of any kind during the project (some of these EMCs dropped out of the program as will be described later). Likewise, twenty-four EMCs or about thirty-five percent did not report a serious case. On the community level, Table 11 shows that four of the thirty-six communities did not report a single case. In eight of the thirty-six communities, there were no serious cases reported, leaving the other twenty-eight communities to report the total 263 cases which represents an average of over nine serious cases per community in those communities in which the EMCs responded. It can also be noted in Table 11 that five EMCs reported over forty cases and three EMCs reported over twenty serious cases. The EMC workload by community was therefore quite variable.

Table 11
NUMBER OF CASES SUBMITTED

Number Cases	Number of EMCs		Number of Communities	
	All Cases	Subset	All Cases	Subset
0	10	24	4	8
1- 5	25	29	9	11
6-10	10	7	3	7
11-15	6	4	3	6
16-20	3	1	2	0
21-30	6	3	4	4
31-40	3		5	
Over 40	5		6	
Total	68	68	36	36

The EMC Incident Form provided a place for the EMC to assess patient severity at the scene. Table 12 provides an analysis of patient severity as assessed by the EMC for the total 736 cases, the 263-case subset, and the 25 cases in which the EMC was already on the scene and the patient was subsequently transported. It can be seen that only twenty-six percent of the total cases were judged to be severe, critical, or dead by the EMCs, whereas forty-seven percent of the subset fell into these three categories.

Table 12
PATIENT SEVERITY

Severity	Called--Transported		EMC on Scene--Transported	
	No.	Percent	No.	Percent
Minor	230	40	41	16
Moderate	195	34	98	38
Severe	61	10	44	17
Critical	47	8	38	15
Dead	46	8	40	15
Total	579	100	261	100

Table 13 shows the type of call, as indicated by the EMCs, in the following five categories:

1. Traffic Accident
2. Medical Condition
3. Non-Emergency
4. Accidental Injury
5. Other Injury

An additional category, "Unspecified," was added to aid in the analysis of project data.

Table 13
TYPE OF CALL RECEIVED

Call Type	All Cases		Transported	
	No.	Percent	No.	Percent
Traffic Accident	188	26	116	44
Medical Condition	176	24	101	38
Non-Emergency	88	12	0	0
Accidental Injury	188	26	30	11
Other Injury	24	3	9	3
Unspecified	72	10	7	3
Total	736	101	263	99

A total of forty-four percent of the serious cases (the 263-case subset) represented traffic accidents, while this percentage was only twenty-six for all cases. The EMCs described eighty-eight calls or twelve percent as nonemergency in nature, the majority of these calls being calls in which medical advice was sought.

EMC Response Time

The remaining portion of this section is concerned with the 263 serious cases believed to be more indicative of EMC performance. For these incidents, the mean response time to the scene from the time of call was 4.38 minutes. Categorized EMC response times are shown in Table 14, using the four response time ranges:

1. 0-4 minutes
2. 5-8 minutes
3. 9-12 minutes
4. Over twelve minutes

Table 14
EMC RESPONSE TIME

Response (Minutes)	Cases	Percent
0- 4	162	63
5- 8	63	24
9-12	29	11
Over 12	4	2

Examining the most critical response time category, four minutes or less, one can see that in sixty-three percent of the serious cases, the EMC response fell into this category. Further analysis reveals that in eighty-seven percent of the cases, response time was eight minutes or less. This was a most significant finding when compared with the average wait for medical assistance from ambulance providers in these areas.

In addition to response time, the EMCs were also asked to record the distance in miles to the scene. Based on the response time and the distance in miles recorded for the 263 serious cases, the following regression equation for the EMC response time (EMCRT) was developed:

$$\text{EMCRT} = 1.73 + 0.94M \text{ (where } M = \text{No. of miles traveled)}$$

This equation yielded an R SQUARED value of 0.46 and indicates an EMC response time of 1.73 minutes plus approximately 1 minute per mile traveled.

Table 15 shows a breakdown of the EMC distance to the patient in miles. It can be seen that sixty-one percent of the incidents occurred within 2 miles of the EMC, thus highlighting the logic of the EMC concept in rural communities. Only 5 of the cases, or two percent occurred at a distance of over 8 miles, and the mean distance for the 263 cases was 2.7 miles.

Table 15

EMC DISTANCE FROM PATIENT IN MILES

Distance (Miles)	Cases	Percent
1	110	43
2	46	18
3-4	55	21
5-8	41	16
Over 8	5	2

Ambulance Response Time

A related question to the EMC Response Time is the response time of the ambulance. On the incident form, the EMCs were requested to estimate the time interval between their arrival and the arrival of the ambulance. This time interval is referred to as the Volunteer Intervention Period (VIP) and represents the time available for the EMC to perform stabilization duties prior to the arrival of an ambulance. Again using the 263 serious cases as a data base, the mean VIP was 16.3 minutes. Adding this to the average EMC response time yields an average anticipated ambulance response time of approximately 20 minutes under the assumption that the EMC and the ambulance were notified simultaneously.

A breakdown of the VIP for the 263 cases is shown in Table 16. In only thirteen percent of the cases was there an ambulance on the scene when the EMC arrived. However, in nearly eighty percent of the cases, the EMC was on the scene at least nine minutes prior to the arrival of the ambulance.

Table 16
VOLUNTEER INTERVENTION PERIOD (VIP)

Time (Minutes)	Cases	Percent
0	33	13
1- 4	17	6
5- 8	27	10
9-15	107	41
16-30	57	22
Over 30	13	5

Table 17 shows the communities which reported 10 or more of the 263 serious cases with their mean VIP. It can be seen that one community with 10 cases had a 41 minute VIP, suggesting an average ambulance response time of approximately 45 minutes. The shortest VIP seen was 10.5 minutes, suggesting an average ambulance response time of approximately 15 minutes.

Table 17
VOLUNTEER INTERVENTION PERIOD (VIP)

Community Code	Mean VIP	No. Cases
15	41.0	10
17	26.0	12
5	20.0	12
29	19.5	10
22	18.2	12
23	15.8	11
35	13.3	29
36	13.3	21
33	12.1	19
26	10.5	23
Total*	16.3	221

*Total includes data on 28 communities

With an average wait of 20 minutes for an ambulance, it is evident that these critical patients would have been at a severe disadvantage were it not for the arrival of a first responder (the EMC) who stabilized the patient. The response time difference--4.38 minutes for an EMC versus 20 minutes for an ambulance--is the single most important finding of this research, leading to the conclusion that first responder efforts are vital in rural areas in order to create the opportunity to save severely injured or ill patients.

A further analysis of EMC response time is shown in Table 18 which lists average response times versus severity. It can be seen that the greatest difference is the response time to those incidents where the person was apparently dead at the scene. While it may be conjectured that the longer response time might have been related to the death of the patient, this conclusion cannot be supported. An alternative to this explanation may be that the EMC had prior knowledge of the status of the patient from the phone call and did not proceed to the scene in haste.

Table 18

EMC RESPONSE TIME BY SEVERITY

Severity	Response Time
Minor	3.6
Moderate	5.1
Severe	3.8
Critical	4.3
Dead	8.7

A breakdown of mean EMC response time and VIP according to the category of call is provided in Table 19. While the response times are relatively uniform, the VIP for traffic cases is considerably lower, thus suggesting that the ambulance could find the traffic cases on the highway easier than for other locations such as specific private residences in rural areas.

Table 19

EMC RESPONSE TIME AND VIP BY CATEGORY

Category	EMC Response Time	VIP
Traffic	5.3	13.6
Medical	5.1	17.5
Accidental Injury	4.8	20.3
Other Injury	4.2	19.3

Characteristics of the 263 Cases

The location of the patient was recorded by the EMCs on the incident form. It was found that about forty percent of the patients were at home when the incident occurred and approximately forty-three percent were found in or near a roadway. Table 20 shows the various location categories recorded.

Table 20
LOCATION OF PATIENT

Location	Cases	Percent
In or near home	105	40
In or near business	15	6
In or near roadway	112	43
School or public place	10	4
Other	20	8
Total	262	100

Likewise, the EMC location when called is shown in Table 21. Approximately three quarters of the calls came while the EMC was at home. However, the fact that twenty-seven percent of the calls to EMCs came while they were not at home highlights the need for visibility in the community as well as having an EMC who both lives and works in the community. If all of the EMCs in fact worked in their communities (as was recommended), the percentage of nonhome EMC calls would probably have been even greater.

Table 21
EMC LOCATION WHEN CALLED

Location	Cases	Percent
At home	190	73
At work	53	20
Other	17	7
Total	260	100

Since many of the EMCs worked some distance from their home community, no "at work" calls were received by these EMCs.

The patient age as described in Table 22 revealed that there were a large number of emergency medical calls related to the injuries and illnesses of teenagers and young adults. Of these ninety-eight cases, thirty-one or twelve percent, were in the age group sixteen to nineteen. It is also noted that twenty-three percent of the cases were patients aged 65 and older.

Table 22
AGE OF THE PATIENT

Age	Cases	Percent
0-15	19	7
16-34	98	38
35-64	82	32
65 & older	60	23
Total	259	100

The study also examined the group of patients by race. Approximately eighty-five percent of the patients were white and fifteen percent were black. It should be noted that in the EMC selection process, none of the communities selected a black EMC, as might have been expected since the study team found that there was a very small black population in the thirty-six EMC communities. Most of the rural communities with significant black populations are in south Georgia and outside of the study area. Thus, it was felt that a fifteen-percent black patient population indicated that there was not a significant racial barrier to the use of EMCs.

A breakdown of severity of cases by the type of call is shown in Table 23. Looking at traffic cases, it can be seen that sixty-four percent of these were judged to be minor or moderate as compared with only thirty-seven percent of the medical cases shown in this same category. This results in a much greater percentage of serious cases (Severe-Critical-Dead) for medical conditions than for traffic accidents.

Table 23
SEVERITY VERSUS TYPE OF CALL

Severity	Call Type (Number of Cases)				Total
	Traffic	Medical	Accident	Other	
Minor	25	9	4	0	38
Moderate	49	28	16	3	96
Severe	14	24	5	0	43
Critical	15	20	0	3	38
Dead	12	19	5	3	39
Total	115	100	30	9	254

Some information regarding the caller was also a part of the incident form. Table 24 shows a breakdown of the category of caller versus the type of call. Taking traffic cases for an example, the police department called the EMC on forty-five occasions or thirty-nine percent of the time, with a community resident calling about twenty-nine percent of the time, and only two percent of the traffic calls came from an immediate family member. The difference in the distribution of callers becomes even more apparent when contrasting the traffic cases to the medical cases. In the medical cases, an immediate family member called thirty-three percent of the time and a community resident called twenty-four percent of the time, with only five percent of these calls coming from the police. This was an expected result since the first reaction of a witness to a traffic accident is to call the police even when serious injuries are present. It is encouraging to note that these data show that the neighboring police units were aware of the EMC program and were willing to use it. It should be noted that few of the thirty-six communities had local police departments, and the calls by police usually came from county or in some cases State police units.

Table 24

CALLER VERSUS TYPE OF CALL

Caller	Call Type (Number of Cases)				Totals
	Traffic	Medical	Accident	Other	
Victim	1	3	1	0	5
Immediate family	2	34	5	1	43
Community resident	33	24	7	1	66
Fire Department	9	2	2	1	14
Police	45	5	6	4	60
Other	23	31	9	2	65
Total	113	99	30	9	251

As outlined in Chapter II, "EMC Publicity," a person attempting to reach medical aid was instructed to call an ambulance first and then call the closest EMC to the scene. Table 25 describes the call sequence in the 263 cases as it actually occurred. In thirty-three percent of the cases, the EMC (instead of the ambulance) was called first. In about half of these cases, the EMC had to call the ambulance personally.

Table 25
CALL SEQUENCE FOR EMERGENCIES

Was EMC Called First?	Did EMC Call Ambulance?		
	Yes	No	Total
Yes	40	44	84
No	0	168	168
Total	40	212	252

Several other factors associated with the 263-case subset were of interest. Approximately seventy-four percent of the patients were community residents. While this was an expected result, it leaves a significant number of noncommunity residents who were treated by EMCs. Most of these nonresidents were treated as a result of traffic accidents.

While most of the cases reported only one EMC on the scene, approximately fifteen percent of the cases had two or more EMCs on the scene. Thus, there were several multiple calls for help in the community or calls from one EMC to another for assistance. Likewise, in eighty-five percent of the cases, only one patient was involved. There were fourteen incidents involving two patients and three incidents involving three patients. Approximately seventy-five percent of the calls came between 9:00 A.M. and 9:00 P.M.

As discussed in Chapter II, there were generally two EMCs listed on each community's phone stickers. An analysis of calls showed that the number of calls received by the first EMC listed was slightly less than those received by the second EMC listed. This call distribution suggested some selectivity was used when deciding to call as opposed to simply calling the first one on the list. Hopefully, this was based upon personal knowledge of the EMC or a situation in which one EMC lived or worked closer to where the incident occurred.

Patient Conditions and First Aid Tasks

The incident form filled out by the EMC for each case allowed project staff to determine the distribution of specific conditions which the EMCs encountered and the specific first aid tasks performed. Table 26 provides a summary of the patient conditions encountered. It is seen

Table 26
PATIENT CONDITIONS ENCOUNTERED

Condition	Incidence
Breathing	
Absent	44
Abnormal/Difficult	67
Pulse	
Absent	44
Abnormal	61
Consciousness	
Semi-Conscious	39
Unconscious	59
Bleeding	
Minor to Moderate	54
Severe	21
Uncontrollable	1
Skin Color	
Pale/Bluish	91
Flushed/Red	25
Bites and Stings	0
Burns (Chemical)	1
Burns (Thermal)	2
Chest Pain	34
Dislocations	19
Dizziness/Fainting	27
Drowning	4
Drug Overdose	5
Emergency Childbirth	0
Seizures/Convulsions	12
Fractures	45
Heat Exhaustion	2
Heat Stroke	2
Impaled Objects	1
Mental Problems	7
Nausea/Vomiting	13
Pain	76
Poisoning (By Mouth)	1
Puncture Wounds	5
Shock	26
Stroke	8
Other	11

that 111 patients had absent or abnormal breathing, 76 patients had some type of blood loss, and 98 patients had some form of altered consciousness. Other frequently reported conditions included 34 cases of chest pain, 19 cases of dislocations, 27 cases of dizziness/fainting, 45 cases of fracture, 76 cases of unspecified pain, and 26 cases of shock.

Table 27

FIRST AID PERFORMED

First Aid Tasks	Incidence
Airway (Maintain)	90
Apply Compress/Bandage	39
Artificial Respiration	
Mouth-to-Mouth (Nose)	7
Other (List)	4
Calm and Reassure	139
Check for Breathing	143
Check for Pulse	152
Clean Wound	41
Control Bleeding	
Direct Pressure	31
Digital Pressure	0
Elevation	5
CPR	22
Dilute Poison With:	1
Elevate Feet	17
Elevate Head	14
Extricate Victim	16
Flush With Water	4
Fluids By Mouth	0
Immobilize Impaled Object	5
Immobilize Injury	40
Induce Vomiting	0
Loosen Clothing	56
Lower Body Temperature	4
Monitor Pulse and Respiration	99
Keep Victim Warm	64
Remove Contaminated Clothing	10
Position Victim for Comfort	54
Restrain Victim	6
Splint Fracture/Dislocation	28
Straighten Fracture	5
Other	1

The specific first aid tasks performed are summarized in Table 27. Frequently reported procedures included those used to assess the patient's condition and to stabilize the condition such as maintaining the airway, calm and reassure, check for breathing and pulse, and monitoring pulse and respiration. Other frequent tasks which EMCs performed include 22 cases of CPR, 39 cases of application of bandages, 36 cases of administering

some type of bleeding control, 16 cases of extrication, and 28 cases of splinting a fracture or dislocation.

These lists of conditions encountered and procedures performed were developed for use in a performance measure in order to quantify the performance of a volunteer at the scene of an injury or illness. This performance measure, called the First Aid Performance Index (FAPI), is described in the following section.

First Aid Performance Index (FAPI)

The FAPI was developed specifically to quantify the activities of volunteer first-responders. It was developed and first used to evaluate the activities of police officers who responded to the scene of medical emergencies. The index utilizes the concept of the weighted set of first aid procedures performed divided by the weighted set of first aid procedures required based upon the condition or conditions of the patient. The index therefore has a value from 0 to 100 representing the degree to which the correct procedures were performed by the volunteer based upon the patient condition. A detailed explanation of the FAPI including an example calculation is provided in Appendix F.

Table 28 provides a breakdown of the scores on the FAPI. As can be seen in this table, there were 72 cases in which a score of 0 was recorded. The mean FAPI for all cases was 62.5 with a standard deviation

Table 28
SCORES ON FIRST AID PERFORMANCE INDEX (FAPI)

Range of Scores	Cases	Cum. Percent
0	72	27.4
1- 9	0	27.4
10-19	4	28.9
20-29	10	32.7
30-39	19	39.9
40-49	13	44.8
50-59	32	57.0
60-69	38	71.4
70-79	27	81.7
80-89	23	90.4
90-99	10	94.2
100	15	100.0

of 22.1. An analysis of all communities which had reported five cases or more showed that the community high FAPI score was 76.5 and the low was 44.7. Individual differences for EMCs who recorded five or more cases represented a high of 80.6 and a low of 44.7.

Table 29 describes the scores by type of call. In this table, the mean FAPI for all cases of a particular call type were recorded. It is noted that the cases which were categorized as "medical" had a higher score than the other cases. However, there was little difference between medical cases and traffic cases--the two major groups in the analysis. It is seen that cases which represented non-emergency conditions indicated a fairly low score.

Table 29
FAPI SCORES BY CALL TYPE

Call Type	FAPI
Traffic	60.8
Medical	66.3
Non-Emergency	39.0
Accidental Injury	62.2
Other Injury	47.8

Table 30 describes the mean FAPI score based on severity of condition. It is noted here that cases which were categorized as severe had the highest FAPI score at 74, with the two extremes of minor in severity and dead having scores of 59 and 53 respectively. This again suggests that

Table 30
FAPI SCORES BY SEVERITY

Severity	FAPI
Minor	59.0
Moderate	63.0
Severe	74.1
Critical	57.0
Dead	53.0

the EMC was motivated to perform the appropriate tasks according to the perceived value of the EMC skills in the given situation.

Table 31 breaks down the FAPI scores by severity according to traffic or medical calls. Again, the high score was seen in the severe category in both types of calls. For patients who were categorized as dead, it is seen that the scores were higher for medical calls, thus suggesting that more attempts were made to provide first aid for patients in the medical category as opposed to patients in the traffic category. This may indicate basic call differences. For example, in medical conditions such as cardiac arrest, there may be a greater willingness to attempt emergency procedures than on traffic patients who, based upon EMC perceptions, may be more obviously dead.

Table 31
FAPI SCORES BY SEVERITY ACCORDING TO TYPE

Severity	Traffic	Medical
Minor	53.2	67.0
Moderate	63.0	64.8
Severe	69.7	80.1
Critical	61.6	53.0
Dead	20.7	65.3

FAPI Related to Other Variables

The performance variables of FAPI and number of cases were found to be related to other significant variables. As shown in Table 32, the ambulance distance from the community in miles was related to FAPI-- the towns with the greater distance had a higher FAPI score than those which were less. This appears to indicate two possibilities: (1) the EMCs were performing fewer procedures for the patients based on the assumption that the ambulance would arrive soon, or (2) the EMCs were not able to perform the proper procedures based upon the little time available until the ambulance arrived. It is also highly significant that the number of cases was 1.6 for those communities less than 7 miles away from an ambulance and 4.7 for those which were 8 miles or over. This indicates that the community residents saw the EMC role as less

significant and therefore did not call the EMC when the ambulance was, from their point of view, a short distance away. It should be emphasized that an ambulance that is 5 to 7 miles away cannot achieve a 4 to 6 minute response time and therefore the EMC function is still vital for the community. However, this may not be the community perception.

Table 32

PERFORMANCE AND CASES RELATED TO OTHER VARIABLES

Variable	No. of EMCs	FAPI	Signif.	No. of Cases	Signif.
Ambulance Miles--5-7	16	25.8	p = .107	1.6	p = .033
8 Miles & Over	49	37.7		4.7	
Age 17-34	34	40.7	p = .068	2.8	N.S.
Age 35-59	31	28.4		2.9	
Education--8-12	41	30.5	p = .085	2.9	N.S.
Education--13-19	24	42.2		2.8	

The FAPI was also found to be related to age group. Those EMCs who were 17-34 years old scored significantly higher in FAPI than did those whose age was 35-59. Likewise, those EMCs whose education was eighth grade through high school scored less than those who had educations beyond a high school education. This difference, as noted in Table 32, is approximately 12 points higher for those with a higher education.

The Role of Health Educator

The criteria for EMC selection were developed in order that the EMCs who were selected would be those people who were visible and respected in the community. One of the roles for the EMCs was that of increasing the awareness of emergencies and of the proper procedures to follow when emergencies occur. This role is referred to as the health educator role although limited to emergency care and an EMC who is a visible and respected person has a better opportunity to fulfill this role.

Attempts were made to monitor EMC activities in the communities which related to the health educator role. These activities took four general forms. First, the EMCs were encouraged to make presentations to local organizations and other gatherings concerning the EMC program and how it should work. The project staff helped with some of these programs but the initiative was left to the EMCs to organize the meetings and arrange for the staff to come on those occasions of staff involvement. During the project, 63 percent of the EMCs initiated or were involved in at least one community presentation. One EMC had eight presentations during the project.

The second area was that of newspaper articles or radio programs describing the EMC program which were written or arranged by EMCs. These did not include the press releases written by project staff to all the local newspapers and radio stations. A total of 46 percent of the EMCs were involved in some type of newspaper article and 12 percent were active in some type of radio presentation or interview. One EMC had nine newspaper articles.

The third area was that of blood pressure screenings. EMCs were encouraged to perform screenings in the community to increase the awareness in the community of the EMC skills and provide the EMC an opportunity to explain the EMC program while providing vital volunteer service. Most EMCs had their kits with them during the screenings and were able to explain the type of equipment which they were trained to use. A total of 40 percent of the EMCs were involved in at least one blood pressure screening and two of the EMCs had 10 and 30 screenings respectively.

The fourth area of awareness was that of conducting a CPR training class. As was previously described, one of the refresher training sessions for EMCs was devoted to CPR Instructor Training and many of the EMCs therefore became trained as instructors. A total of 35 percent of the EMCs were involved in conducting at least one CPR training course in their communities.

The above "awareness" or "health educator" activities were examined in aggregate by the staff during program evaluation. It was found that only 10 EMCs did not participate in any of the community awareness activities. A total of 17 participated in one or two, 19 participated in three to six activities, and 19 participated in from 7 to 41 activities. (The 41 included the 30 blood pressure screenings which one of the EMCs participated.) These awareness activities are included in several overall effectiveness measures which are described in the last section of this chapter.

While the staff expected the EMCs to be more active in terms of activities to increase awareness in the communities, it was encouraging that 85 percent of them were involved in activities of some type relating to awareness. It may be important for EMS organizations and agencies who run volunteer programs similar to the EMC program to provide increased support for volunteers to increase community awareness through additional staff time.

Analysis of EMC Attitudes

The attitudes of EMCs were measured by the use of a questionnaire containing thirty-five questions. This questionnaire is included in Appendix B.

The questionnaire was completed twice by the EMCs during the project to measure changes in EMC attitudes as well as initial EMC attitudes. The first administration of the questionnaire was conducted just after the initial training period and the second questionnaire was administered about one year later in the program. The EMCs were asked to read each question and circle an answer that most closely represented their feelings about the question. There were five levels of response: (1) strongly agree, (2) agree, (3) undecided, (4) disagree, and (5) strongly disagree.

The questionnaire was designed to measure five major attitudes concerning the EMC project. These five attitudes were as follows: (1) the perception that the EMC project is worthwhile, (2) personal confidence in the EMCs own ability, (3) objections from spouse regarding EMC activity, (4) the publicity level in the community, and (5) the personal interest/enthusiasm of the EMC in the project. In trying to measure the worthwhileness of the EMC project as a concept, the following questions were used:

2. The EMC project is very worthwhile.
3. EMCs should be in all towns having no doctor or ambulance service.
5. I feel that most of my time will be well-spent in being an EMC.
6. The EMC idea will work in my town.
10. The whole town should know about this project.
17. Accident victims are not likely to want an EMC first aid service.
20. EMC first aid attention will usually be unnecessary since an ambulance can be at the scene of an emergency in a few minutes.
21. Because of EMC first aid training, an emergency victim receives better care than he would have otherwise.
24. Before the EMC program, emergency care was too far away.
32. I am very proud to be an EMC.
33. Only the doctors should have the responsibility for the health programs in the community.

Of these questions, numbers 17, 20, and 33 represented questions in which the scale was reversed during analysis.

In measuring the confidence of the EMCs in being able to perform an an EMC, the following questions were used to measure this attitude:

- 4. I feel confident that I can handle the emergency medical problems in my community.
- 8. I have the necessary equipment to handle the emergencies I have been trained for.
- 9. I feel uneasy about giving first aid.
- 25. I usually volunteer for all community projects which are worthwhile.
- 31. I feel uneasy about organizing community activities.

Of the questions above, question numbers 9 and 31 were questions in which scale reversal was used.

There were two questions dealing with objections of the spouse, as follows:

- 7. My wife/husband does not object to me being an EMC.
- 18. My wife/husband thinks that being an EMC will take up too much of my time.

Of the above questions, question number 18 was a question in which scale reversal was used.

Three questions related to publicity and community understanding within the community, as follows:

- 12. The majority of the town already knows about my special training as an EMC.
- 16. Most people in town know that I am trained in emergency first aid.
- 22. There is a lack of appreciation and understanding of the EMC Project in my town.

Of these three, question 22 utilized scale reversal.

Six questions attempted to measure the EMC's interest and enthusiasm regarding the EMC program and his/her participation in it, as follows:

- 15. I would have liked someone else in my town to have been the EMC.
- 19. First aid work is extremely challenging.
- 23. I felt obligated to become an EMC because no one else in town would volunteer.
- 26. Overall, I am very satisfied with the EMC project.
- 29. I am very enthusiastic about the EMC project.
- 34. I find real enjoyment in being an EMC.

Of these questions, numbers 15 and 23 used scale reversal.

Of these five sets of attitudes, two were not particularly useful. These two were spouse objections and community publicity level. However, three were important: (1) Worth, (2) Confidence, and (3) Interest. Analysis of these three attitudes as well as the procedures used in the analysis is described in the following sections.

Attitudes Regarding Worth

The questionnaire was first analyzed using Likert scales. A Likert scale provides a continuum, along which responses to a question may be placed. The two ends of the continuum are usually bipolar and are designed by opposing descriptions as "agree-disagree." The summated Likert scores represent the sum of the responses of the questions for each of the sections.

The minimum and maximum possible summated Likert scores for the section described as "Worth" were 11 and 55. The actual range was from 11 to 27 for the first questionnaire, with a mean of 16 and a range of 11 to 33 for the follow-up questionnaire, with a mean of 18. It is seen that the EMCs rated the program more worthwhile in the first questionnaire than in the follow-up questionnaire, although the difference was very small. Various analyses were used to attempt to correlate the summated Likert scales with other attributes such as the FAPI and the number of emergency cases received; however, there were no relationships found of significance.

The responses to each section of the questionnaire were also examined by Factor Analysis. This technique provides two kinds of information: first, it locates the relationships in the data as they exist among variables, and secondly, it reduces the variables that cluster together into a smaller set of factors associated with factor scores. These clusters of factors then should help to explain the variation in the data. This technique is also used to determine if the dimensions, which were assumed to be measured by the questionnaires, are in fact those that were measured by the questions. A factor analysis of the group of questions associated with "Worth" of the project demonstrated that three factors were in evidence. The first factor attempted to relate questions "2," "3," "5," and "10" and could be thought to measure the "worthwhileness" of the project. This factor accounted for 57.1 percent of the variance in the section. The second factor was mostly dependent upon question "21" and appeared to measure the attribute, "People will want/need the service." This factor accounted for 32 percent of the variance. The third factor was primarily dependent upon question

"6" and appeared to measure "The idea will work in my town." This factor accounted for 10.9 percent of the variance. Table 33 summarizes the relationships among the three factor scores which measure worth and the variables, FAPI and number of emergency cases. Factors beginning with the letter "A" were factors from the first questionnaire and factors beginning with the letter "B" were the second questionnaire. It is seen that factor "1" showed that a high measure of worth was correlated with a high FAPI and a low measure of worth was correlated with a low FAPI, as measured by t-tests. This difference of approximately 15 points on the FAPI scale is felt to be a significant finding in the attitude questionnaire analysis. If this same result were to hold for the general population, the performance of an EMC, as measured by FAPI, could be predetermined by the attitude as measured by the first factor in the "worth" section of the questionnaire.

EMC Attitudes of Confidence

The confidence section of the questionnaire consisted of five questions, as was discussed previously. The summated Likert scores of these questions resulted in a score of 6 to 15 for both the first questionnaire and the follow-up questionnaire. Minimum and maximum scores were 5 and 25, respectively. The mean score for this section was 9.88 for the first questionnaire and 9.90 for the follow-up questionnaire. This essentially indicated no overall change in EMC response to this set of questions.

A factor analysis of this section indicated two dominant factors. The first factor consisting primarily of questions "4," "9," and "31," appeared to measure "personal confidence" in delivering emergency care. The second factor, consisting primarily of question "25," could be characterized as "volunteer for projects." In determining the relationship between confidence as measured by the factor scores and FAPI, no relationships of significance were found. It was seen, however, that the number of cases appeared to be inversely proportional to confidence as measured by factor 1. For those individuals which had a high personal confidence, the mean number of cases handled was 2.9 versus 4.9 cases for those with low confidence. While this result was not statistically significant based upon sample size, there may be a relationship in the number of cases handled and personal confidence in being able to perform as an EMC. If this is indeed true, additional periodic and continuing training may be very helpful in building EMC confidence level.

Table 33

FACTORS MEASURING WORTH VERSUS FAPI AND CASES

Factor	No. of EMCs	FAPI	Signif.	No. of Cases	Signif.
AW1-Hi	39	41.4	$p = .062$	3.8	N S
AW1-Lo	25	25.7		4.2	
BW1-Hi	35	39.2	$p = .104$	3.9	N S
BW1-Lo	30	29.5		4.2	
BW2-Hi	54	36.0	N S	4.4	$p = .078$
BW2-Lo	9	25.4		1.9	
BW3-Hi	33	41.1	$p = .088$	4.2	N S
BW3-Lo	30	27.1		3.8	

Table 34

FACTORS MEASURING CONFIDENCE VERSUS FAPI AND CASES

Factor	No. of EMCs	FAPI	Signif.	No. of Cases	Signif.
AC2-Hi	32	41.3	$p = .115$	5.1	$p = .129$
AC2-Lo	33	28.4		2.8	
BC2-Hi	46	29.5	$p = .047$	3.5	N.S.
BC2-Lo	17	47.9		5.0	

Table 34 indicates the relationship between the second factor, "volunteer for projects," and the performance variables. It is seen that a high confidence level on the first questionnaire was correlated with both a higher FAPI and a higher mean number of cases. However, the second factor on the follow-up questionnaire was inversely correlated with FAPI and number of cases, although in the situation of number of cases, this result was not statistically significant for number of cases. This appears to show some change in attitudes taking place. It should be noted, however, that while each of the factors labeled factor 1 of Worth, Confidence, and Interest are positively correlated with the respective summated Likert scores, this is not true of factor 2 and 3 of these sets. Therefore, a high and low factor score for factors 2 and 3 are measuring attitudes, but it is unclear which is a "good" attitude and which is a "bad". It is clear only that the factor score is measuring a difference.

Measurement of Interest as an EMC Attitude

Questions "15," "19," "23," "26," "29," and "34" represented questions which measured overall EMC interest in the program. These six questions produced a theoretical summated Likert score between 6 and 30, whereas the actual scores ranged from 6 to 17, with a mean of 10.5, on the first questionnaire and a range from 6 to 21, with a mean of 11.2, on the second questionnaire. Again, it is seen that the scores are higher, meaning that the interest level is a little less on the second questionnaire than was demonstrated on the first.

A factor analysis of the questions in the interest questionnaire produced two dominant factors: the first factor, consisting of all questions except "19," appeared to measure overall interest or enjoyment in being an EMC. The second factor, consisting primarily of question "19," represented the attitude "challenging." It was found that for the first factor, the FAPI was higher (38 versus 30) for both interest factors of the first questionnaire and also for the first factor (38 versus 32) in the follow-up questionnaire. However, these results were not statistically significant due to sample size. Table 35 shows that the attitude represented by the factor "challenging" on the follow-up questionnaire varies with number of cases handled. Again, it is not clear what a high and low score of factor 2 means in terms of "good" versus "bad" attitudes--it can be stated only that cases vary with attitude.

Table 35
FACTORS MEASURING INTEREST VERSUS FAPI AND CASES

Factor	No. of EMCs	FAPI	Signif.	No. of Cases	Signif.
BI2-Hi	30	34.1	N.S.	2.8	p = .100
BI2-Lo	33	34.8		5.2	

The change between Questionnaires 1 and 2 in Worth, Confidence, and Interest was also computed for each EMC as measured by the summated Likert scores. It was found that a positive linear relationship existed between the change in Worth and the change in Confidence ($R^2 = 0.46$). This indicates some similarity in these measurements. However, this relationship did not exist between Worth and Interest or between Confidence and Interest. Interest therefore appears to be measuring a different dimension of EMC attitude.

In summary, the attitudes exhibited by the EMCs on the first and second attitude questionnaires appeared to show that the FAPI was higher for EMCs who attributed a higher worth to the EMC program than those who attributed a lower worth. There was some indication that the confidence level of EMCs was related to the number of cases that the EMCs handled and that, with greater number of cases, the FAPI was greater. FAPI also appeared to be higher with greater interest, as measured by the factor scores; however, this result was not statistically significant.

The EMC Effectiveness Score

As a final evaluation activity, the EMC staff developed an overall effectiveness score for the EMCs which would represent a quantitative measure of how well an EMC did his or her job. It was recognized that the FAPI only measured a part of what the EMC was expected to do as an EMC; thus, some overall score would be beneficial in comparing EMCs as a function of such independent variables as age, sex, education, length of residence, and others. This score should be a composite score representing the various categories of activities in which an EMC would

ideally be engaged. In looking at the types of activities expected of the EMCs and the data available to the staff, there were six areas which appropriately represented the EMC's function.

The first area selected was the FAPI, since this index represented a quantitative measure of the performance of an EMC at an emergency. The FAPI was described in the first section of this chapter and the FAPI calculation is included in Appendix F. The second measure to be part of the effectiveness score was the number of emergency calls to which the EMC responded. While the FAPI represents the average performance over all of the emergency calls, the mean number of those calls for each EMC represents an important measure of how well the community knows about the program as well as the level of trust in the individual EMC and the program as a whole. For example, one EMC in a community may receive ten calls whereas another EMC in the same community may receive one. This difference may be due to many factors, including greater community knowledge of one of the two EMCs; one of the two may live closer to the center of the population; one of the two may be employed out of town and therefore may not be available; the two may be of different sex and the community may be more likely to call one versus another; one may have lived in the community longer and thus be better known; one may be older and thus more trustworthy (or less trustworthy); etc. For these reasons, the number of emergency calls an EMC received during the project represents an important measure of effectiveness.

The next four components of effectiveness relate to the activities in which an EMC was engaged. The distribution of telephone stickers is the third area and a very important function of the EMC's job, as was described in Chapters 2 and 3. The EMCs showed great variation in the manner in which the telephone stickers were distributed. The most effective way was the individual, house-to-house distribution method. This allowed the residents to meet the EMCs personally (although they were well-known to most of the community), to have the opportunity to ask questions about the program, and to develop confidence in the EMC's ability to perform. This method also allowed the EMC the opportunity to stress the importance of physically attaching the sticker to the phone.

There were other methods of distribution, including a mailing with the community water bills, distribution at a local meeting, distribution

through school children or Boy Scouts, or leaving stacks of stickers for pickup at public places like the post office, local store, or gas station. It was also found that some of the EMCs did not participate in the sticker distribution.

The fourth area of effectiveness was the attendance at the refresher training programs. There were three refresher training programs at six-month intervals and the EMCs were urged to attend the meetings in order to continue the training process. The attendance was therefore an important part of the continuing effectiveness of the EMC in the community.

The fifth area was the sum of all of the publicity and promotion activities in which the EMCs were engaged. These activities included putting on a program at a local community gathering to explain the EMC program, writing an article or having an article written for the local newspaper, participating in a local radio show, setting up a booth at the community fair to take blood pressures, and others as described in Chapter III and in a previous section of this chapter. The sum of these activities then represented the degree to which the EMC was active in promoting the EMC concept and gaining greater visibility for the volunteer emergency service which the EMC is providing.

The sixth area represents the sum of all of the local emergency medical training activities which the EMCs engaged. These activities included such areas as riding with the local ambulance crews to gain a better understanding of emergency operations, observations at the local emergency department to have a better knowledge of the staff and how they treat emergency conditions, and hospital in-service training sessions which the EMCs received invitations for. These types of activities allowed the EMCs to have a greater knowledge of how to handle specific emergency problems and how to work in conjunction with local medical professionals.

Construction of the Effectiveness Score

After examining the various scores of the EMCs with respect to the six areas, it was noted that a wide diversity existed among EMC scores. It was not practical to take the raw score of each of these six areas to construct this index. For example, the EMC who had 41 publicity activities was not eight times more effective than the EMC who had five, nor 41 times more effective than the EMC who had one. Each of the six

activity areas was examined and the EMCs were divided into four categories with respect to each of these areas. The first group consisted of the EMCs who had no activities in the specific area, e.g., the EMCs who reported no publicity activities. The EMCs received a score of zero for this activity. The remaining three groups represented the EMCs who were in the lower third, middle third, and upper third in terms of performance of that activity. Again using publicity as an example, the lower third of the remaining EMCs (those left after the 10 EMCs who reported no activities were removed) represented 17 EMCs who reported 1 or 2 activities in the publicity area. Likewise, the middle third represented 19 EMCs who reported 3 to 6 activities, and the upper third represented 19 EMCs who reported from 7 to 41 activities. The EMCs were then assigned 3 points if they were in the upper third, 2 points for the middle third, 1 point for the lower third, and a zero for those who had no activities.

This procedure was followed for four of the performance areas:

(1) the FAPI, (2) the number of emergency cases, (3) the number of emergency-related activities, and (4) the number of publicity activities as noted above. For the attendance at the refresher sessions, it was a simple matter to assign one point for each of the times the EMC was present at the refresher sessions. Thus, the EMC received from no points up to three for attendance at all three refresher training sessions. For the performance in phone sticker distribution, the EMC received 3 points if the distribution was reported to be conducted on a house-to-house basis. Any other method or methods received 2 points and those EMCs who did not distribute stickers received zero points.

This six-area performance procedure was completed by adding the score of each of the six areas (zero to three points each) thus resulting in an overall score ranging from zero to 18. To express this on a zero to 100 basis, the scores were divided by 18 and multiplied by 100 thus providing the desired scale. It was interesting that the scores were found to be very uniformly spread from zero to 100.

Two other effectiveness scores were constructed for the analysis of EMC performance. The first was the utilization of a subset of the six areas in the Effectiveness Score to produce an Activity Score. The FAPI was deleted along with the number of emergency cases received since these two were not always under the direct control of the EMC. The Activity Score thus combines the four areas of sticker distribution, refresher

attendance, community publicity activities, and emergency training activities. This score was also scaled to provide a zero-to-100 range for comparisons to the other scores.

The final score is another modification of the Effectiveness Score. It was felt that the most critical factor to affect EMC effectiveness is the situation of an EMC moving out of the community. For various reasons which will subsequently be discussed, ten of the 68 EMCs moved out of their respective communities during the course of the project evaluation. In order to compare the effectiveness of all EMCs with the inclusion of moving history, a score was developed which takes this situation of moving into account. For those who moved away, the Effectiveness Score was multiplied by 0.25 to force all who moved out of the community into the lower quartile of EMC scores while keeping the full Effectiveness Score for those who did not move during the evaluation period. This then provided a Modified Effectiveness Score for use in EMC comparisons along with the previously mentioned Effectiveness Score and the Activity Score. It was realized that the Effectiveness Score is already affected by EMCs moving away since the number of calls cease and the number of EMS and community activities are reduced or cease. However, some EMCs who leave the community could still be in the upper third in every category when they left and the score without modification would then be insensitive to the EMC's moving away. This Modified Effectiveness Score, when utilized along with the Effectiveness Score and the Activity Score, will offset this insensitivity to the EMC's moving away.

Results of the Effectiveness Scores

Table 36 shows the relationships of the Effectiveness Score and the Activity Score with certain key variables. First, it was found that both scores were related to the initial approach of Government sponsorship versus Voluntary sponsorship. By use of t-tests, it was found that those EMCs who were selected by a volunteer sponsor were significantly higher in both scores than those selected by government groups.

It was also found that female EMCs scored significantly higher on both scores than did male EMCs. It was concluded that the female EMCs were much more active but the reasons are not well known. It appeared to the staff that the females were more outgoing and possibly had more time available for various activities than did the males.

Table 36
EFFECTIVENESS RELATED TO OTHER VARIABLES

Variable	Cases	Effective	Signif.	Active	Signif.
Approach--Government	34	45.6	p = .061	49.5	p = .015
Approach--Voluntary	31	55.0		63.4	
Sex--Male	40	46.7	p = .079	51.7	p = .040
Sex--Female	25	55.6		63.3	
Selection--Group	29	58.0	p = .009	65.2	p = .006
Selection--Individual	36	43.7		48.8	

Table 37 confirms the time situation in that 36 percent of the females did not have a job outside the home, whereas only 2.5 percent (one EMC) of the males had no job. In addition, it is seen in Table 37 that 45 percent of the male EMCs worked out of town as contrasted to 16 percent of female EMCs.

Table 37
LOCATION OF JOB BY SEX

Location of Job	Males		Females	
	No.	Percent	No.	Percent
Work in Town--Full-time	21	52.5	11	44.0
Work in Town--Part-time	0	0	1	4.0
Work Out of Town--Full-time	17	42.5	4	16.0
Work Out of Town--Part-time	1	2.5	0	0
No Job	1	2.5	9	36.0
Total	40	100.0	25	100.0

Group selection as described in Chapter II also produced a more effective EMC than did individual selection or "volunteering." It appears that the groups were able to make a better selection. Also, when the

situation of an individual selection (including self selection) occurred, there was a tendency for the person to volunteer because no one else had agreed to take on the EMC responsibility. It was therefore confirmed by the Effectiveness Scores that the best selection occurs when a number of possible candidates are available for selection and this selection is made by community group.

Table 38 relates the Activity Score to the FAPI and the mean number of cases received by the EMCs. By means of a t-test, those EMCs in the lower half of the Activity Score were compared with the EMCs in the upper half of the Activity Score. It was seen that both FAPI and number of cases were higher for those EMCs who were in the upper half. This is an important finding because it appears that those EMCs who are interested enough in the program to be active in the various phases of it are the ones who receive the most cases and are those who perform the best at the scene. An EMC who is active in promotion and in continuing education is therefore the most effective in performance and is the one whom the community respects enough to call.

Table 38

PERFORMANCE AND CASES RELATED TO ACTIVITY SCORE

Activity Score	No. of EMCs	FAPI	Signif.	No. of Cases	Signif.
Lower Half (0-50)	26	22.5	p = .007	1.42	p = .013
Upper Half (51-100)	39	43.0		3.77	

Finally, Table 39 summarizes the Effectiveness Scores with the various EMC selection criteria of Chapter II. These selection criteria are those in which variability existed among the EMCs. These include: (1) lives in the community, (2) works in the community, (3) is competent to learn necessary skills (two comparisons with education and one concerning previous medical training), and (4) is respected in the community (three comparisons).

Six Effectiveness Scores were included in Table 39 as follows:

(1) the mean number of emergency cases (ECASE), (2) the FAPI, (3) the score

Table 39

EFFECTIVENESS SCORES WITH EMC CRITERIA

	#EMCs	ECASE	Sig.	FAPI	Sig.	EXAM	Sig.	ES	Sig.	MES	Sig.	AS	Sig.
LIVES IN COMMUNITY													
Yes	43	3.2	.124	38.1	.132	93.2	NS	52.2	.168	49.4	.099	57.9	NS
No	22	2.1		28.4		91.6		46.0		40.1		52.7	
WORKS IN COMMUNITY													
Yes	43	3.0	NS	38.2	.128	92.8	NS	52.3	.153	46.8	NS	57.2	NS
No	22	2.6		28.3		92.4		45.7		45.1		54.2	
COMPETENT TO LEARN SKILLS													
Completed H.S.	53	2.5	.175	34.5	NS	93.9	.064	49.7	NS	46.1	NS	55.7	NS
Did Not Complete	12	4.4		36.0		87.3		51.9		46.6		58.3	
Completed H.S.	41	2.9	NS	30.5	.084	92.4	NS	49.3	NS	46.8	NS	56.9	NS
More than H.S.	24	2.8		42.2		93.2		51.4		45.3		54.9	
Previous Med Training	36	2.4	.167	35.5	NS	93.8	NS	49.1	NS	45.1	NS	55.3	NS
No Previous Training	29	3.4		34.0		91.3		51.3		47.6		57.2	
RESPECTED IN COMMUNITY													
Resident-10 yr or more	33	3.3	.164	36.9	NS	93.3	NS	48.8	NS	46.8	NS	52.8	.146
Resident-less than 10	32	2.3		32.6		92.0		51.4		45.7		59.6	
Member-Community Org.	48	3.0	NS	35.5	NS	92.2	NS	50.7	NS	46.7	NS	56.2	NS
No Community Org.	17	2.2		32.8		94.0		48.4		44.9		55.9	
Selection-Community Grp	29	3.5	.118	36.6	NS	92.2	NS	58.0	.009	55.0	.009	65.2	.005
Selection-Individual	36	2.3		33.4		93.0		43.7		39.2		48.8	

on the training exam (EXAM), (4) the Effectiveness Score (ES), (5) the Modified Effectiveness Score (MES), and (6) the Activity Score (AS). Some data in Table 39 are not significant. However, the non-significant scores were included in order to make comparisons with other related variables.

It is seen that those EMCs who live in the community were higher on the Effectiveness Score (ES) and on the Modified Effectiveness Score (MES), which took into account those who moved away during the project. The term "lives in the community" was defined as those EMCs who lived within one mile of the center of town. These same variations were seen in the variables ECASE and FAPI.

EMCs who worked in the community (or did not work) scored higher on the ES as well as the FAPI. It is evident that a desirable EMC is one who does not work outside of the community--not only because of availability, but because of overall higher effectiveness.

In terms of competency of learning skills, two sets of educational measures were analyzed. The first set compared those who had a high school diploma or greater with those who had not completed high school. It is seen that the number of cases handled was higher for those not completing high school, although the exam score was markedly lower. However, there was no difference in FAPI. The second set of educational measures compared those with more than a high school education with those completing high school or less. In this comparison, those who had greater than a high school education scored higher on the FAPI. While this is interesting, there are no clear policy implications to the differences in educational level.

EMCs with previous medical training appeared to score higher on the Exam and on the FAPI but these results were not significant. It also appeared that these individuals handled fewer cases. Thus, the community was not necessarily more likely to call an EMC who had previous medical training.

In terms of the dimension "respected in the community," EMCs who were residents for 10 years or more were compared with those who resided in the community less than 10 years. There is little difference in the measures, with the exception that the longer residents seemed to handle more emergency cases. It was especially striking when those EMCs who had resided in the communities 6 years or more were compared with those with

less than 6 years, in terms of cases handled. The longer residents had 3.5 cases, whereas the shorter-term residents had 1.6 cases. This was significant at the 0.015 level. Thus, it appears that the community may slightly prefer the longer-term resident, although 10 or more years may not be the proper selection criterion.

EMCs were compared in terms of those who were members of at least one community organization versus those who were not. Those with organizational memberships appeared to score higher on the various performance indices although none of these were statistically significant.

The final comparison, "group selection versus individual (or self) selection," was very significant. While the number of cases handled was slightly higher by the EMCs who were selected by a group, these EMCs scored much higher on the ES, the MES, and the AS. Thus, Table 36 and Table 39 show that EMCs should be selected by use of community groups as opposed to single selection or by taking volunteers. In addition, it is seen that a Volunteer group (e.g., fire department, PTA, etc.) as opposed to a Governmental group (city council) was more effective in selection of EMCs who scored higher on the various effectiveness indices.

CHAPTER V

CONCLUSIONS AND IMPLEMENTATION PLAN

This chapter summarizes the findings of the EMC study and provides an implementation plan for those interested in application of the EMC concept in other settings. Three issues will be explored in the following sections: (1) Is there a need for the EMC program or a similar program? (2) Does the EMC program prove to be useful as a concept? and (3) Is the EMC program truly effective in providing a first-responder service to small rural communities? The remainder of the chapter is devoted to an implementation plan for use by agencies who are considering a program of this type.

The Need for the EMC Program

There are approximately 11,000 communities in the United States which have populations of under a thousand. The vast majority of these communities do not have community emergency resources. Thus the response time for ambulances to come from neighboring communities is often unsatisfactory. The EMC study showed a mean ambulance response time of approximately 20 minutes. One of the communities had a response time of over 41 minutes. In contrast, the mean EMC response time was 4.38 minutes which was 16 minutes ahead of the ambulance units. While some emergency calls are not critical in terms of response time, those situations which are life-threatening may not tolerate a 20-minute response time. It is therefore important to improve emergency response time in order to provide proper and timely care for this group of emergency patients.

Community selection included those communities in which an ambulance was 5 miles or more away. It was shown that the community perception of need for the EMC program varied with ambulance distance. Those communities within 7 miles (although at least 5 miles away) were markedly less enthusiastic about the EMC program than those who were at distances of greater than 7 miles.

The EMC Program as a Workable Concept

The concept of community selection of two local volunteers who are trained, equipped, and furnished with information and assistance to implement the EMC program in rural communities appears to have worked very well. The decision to select only two volunteers per community

was found to be appropriate in terms of availability of these volunteers when needed. This allowed the utilization of limited training resources to benefit many communities since only two EMCs in each community were trained. This also allowed publicity efforts including the printing of telephone stickers to be focused upon two individuals in order to promote greater community awareness of who to call in an emergency.

It was found that rural communities were in fact very interested in this program and willing to select volunteers and to support it financially through the purchase of one of the two first aid kits. While 36 communities participated, only 5 could not identify a sponsor group willing to work with the program and only 7 communities could not find candidate EMCs willing to undergo the training. It was found that it became harder to locate appropriate candidates as the communities became smaller. Five of the smallest communities (150 to 350 in population) could only find one person willing to be trained. Four of the 7 communities who could find no volunteers were also the smallest in size.

Community groups could not always meet the selection criteria for EMCs. Those criteria which proved the hardest to meet were the residence and workplace criteria. Approximately a third of the EMCs worked outside the community and another third lived outside the one-mile radius of the center of town which was the target location in terms of access to emergency incidents. It also appeared that selection of a long-time resident was beneficial in terms of that person being known and respected by the community. Residents who had lived at least 6 years in the community had a much higher emergency call rate than those having lived in the community 5 years or less.

One evidence of the acceptability of the selection criteria is the number who moved away or quit the program. A total of 10 EMCs moved away from their communities during the two-year program. An additional 2 EMCs essentially quit the program. More experience with the EMC program is needed to determine whether 10 who move out of the group of 68 is excessive and whether additional selection criteria may reduce the number of those who move away.

Analysis of the incidents and discussions with the EMCs have indicated that the 40-hour training program was sufficient. The EMCs were equipped with the basic skills to provide appropriate stabilization of the patient's condition until an ambulance arrived. This training combined with periodic refresher training was shown to be effective.

It should be strongly emphasized that refresher training is critical to the EMC program. It not only provides a refresher in terms of technical knowledge and skills, but provides the extra enthusiasm for the program needed in a volunteer organization such as this one. Appropriate recognition for the EMCs is also a necessary element in keeping the motivation and enthusiasm high.

The Effectiveness of the EMC Program

The primary case for the effectiveness of the program is in the incident data collected. There were 263 cases of emergencies in which the EMCs were called and responded and the patient subsequently transported by ambulance to the hospital. The response time of 4.38 minutes as compared to an ambulance response of approximately 20 minutes testifies to the effectiveness of the program as was noted above.

The EMCs also were effective as health educators. Through the various publicity activities of the EMCs, it was shown that a measurable increase in public awareness took place. Thus, the EMCs not only were ready for duty when emergencies arose, but provided a vital public awareness function.

The EMC program also proved to be cost-effective. The primary cost of the program is in the training program and the refresher training. In contrast, the State of Georgia has trained over 13,000 licenced EMTs. Of this number, it is estimated that only 3 to 4 thousand are in any way active in emergency care--either full-time, part-time, or as volunteers. Thus, tremendous training resources have been expended on EMT training at a higher contact-hour level and, as a result, relatively few are utilizing that training. In contrast, the EMC program permits a higher percentage of those trained to continue to be useful in their communities because of its unique organizational structure. In addition, training resources can be applied to

refresher training rather than primary training to keep current those who have been trained. It is doubtful that Georgia is alone in this percentage of EMTs who are not being appropriately utilized. This program will be effective in any state with a significant rural population. This generalizability of the EMC program to other states is obvious.

EMC Implementation Plan

This research project has developed valuable information which will be of use in implementation of the EMC program in other settings. While other settings will require some variation in these activities, most of these will apply to any rural area.

1. The EMC program should be based in an EMS unit at a regional or statewide level. Thus, staff time can be made available to implement the EMC program or additional staff hired to perform this added function. The first and most important decision is the decision to commit staff time to the EMC program in terms of initial planning and implementation as well as ongoing operations. A vital initial consideration for the agency is the investigation of the legal ramifications of the program. In Georgia, there were no legal problems based upon the Good Samaritan law of the State. The various legal questions for the State of Georgia are addressed in Appendix G.
2. The first task in implementation will be to identify rural communities which do not have an existing ambulance service. Assistance from the rural ambulance services, hospitals, or other agencies such as the Agricultural Extension Service at the county level can be valuable in both identification of communities as well as providing appropriate contact persons within the communities. Personal visits to these communities appear to be essential in promoting the idea and in seeking a community group with which to work in the EMC selection process. These personal visits cannot be emphasized enough. The EMC program will be successful only if the appropriate EMCs are selected. This will not occur without considerable staff work.
3. The selection of effective EMCs was found to be more successful when utilizing a community civic group rather than the Mayor and City Council. In small communities, the Mayor and other city officials are likely to be a part of the civic group anyway. The research showed that more effective EMCs were selected by group process within community civic groups rather than asking for volunteers or having one person perform the selection. Self selection is also not as likely in a group-selection process.

4. Specific selection criteria should be provided to the community group and the importance of the criteria should be stressed. Particularly, the criteria concerning residence and workplace should be stressed. Female EMCs were found to be more effective than males in the study; therefore, females should not be discouraged from accepting the EMC role.
5. It was found that the training program provided not only technical skills but enthusiasm and motivation for performing as an EMC. It is recommended that the training be performed in pleasant and attractive surroundings and that the EMCs be trained in geographical groups in order to get to know one another. Special logo items such as auto tags, arm patches, decals, etc. were found to be good motivational tools for the EMCs as well as providing good visibility for the program.
6. A proper budget should be provided to purchase the first aid kits and provide for periodic publicity efforts in the communities. Telephone stickers should be provided with community-specific information on them. These should advise a caller to FIRST CALL the appropriate ambulance when an emergency occurs and THEN CALL the closest EMC. These telephone stickers should be periodically reprinted and distributed by the EMCs to keep the community awareness at a high level. With respect to the first aid kits, the recommendation based upon the experience of the research project is to give the kits to the EMCs and make it clear that the kits are the property of the EMCs--not the community. Several difficulties arose during the project with respect to this issue. In one case, the community wanted to have the kit reside at the fire department. The EMC in an emergency would therefore come and pick it up. This situation was obviously unworkable but the attitude of the community was that it was community property. This issue came up again as several of the EMCs moved out of the communities. It was the feeling of the project staff that the kit should reside with the EMC since the EMC was trained to use the equipment and the community could not make use of the kit anyway unless someone else was trained.
7. Periodic refresher training is essential to the ongoing success of the EMC program. It is recommended that this refresher training be conducted at six-month intervals. This will also provide contact between the EMCs and the EMS staff in order to continue to plan publicity efforts and other promotional activities. Other training opportunities should be arranged locally for the EMCs including working a shift with the EMS units to get to know the EMS personnel as well as observing EMTs in action. It was valuable to have the EMCs participate in community awareness activities such as arranging community presentations to explain the concept or conducting blood pressure screenings. It is recommended that these activities be formalized and EMCs urged to perform these on a regular basis.

8. Some form of incident reporting should be a part of the EMC activity. An incident form should be completed on each incident handled by the EMC and this form subsequently forwarded to the regional or state EMS office. These incident reports will be valuable for planning and monitoring of the program in various parts of the region or state. Management information from these incident reports could identify areas in which more publicity is needed, identify which training areas are appropriate for refresher training, identify which EMCs are no longer effective, etc. The need for these from a legal point of view has not been firmly established, but proper documentation would be valuable in predicting and assessing trends.
9. Finally the regional EMS staff should publish a periodic newsletter. This newsletter could provide a vehicle of communication between the EMCs and the regional staff as well as communication among EMCs. The newsletter can point out problems, announce training activities or promotional efforts, and highlight EMC activities of interest to the volunteers. The newsletters developed during the research project could serve as a model for this activity.

APPENDICES

APPENDIX A
EMC COMMUNITY ORGANIZATION CASE STUDY

GENERAL INFORMATION FORM

COMMUNITY

Date	Comments
2-20-78	First run-through on <u> </u> on Hwy. 142 coming from <u> </u> . . . Barber Shop, which must be all of 5 x 10 . . . a four-way stop . . . a Shell station, which is also a combination <u> </u> Service Mart . . . <u> </u> is about 8 miles away . . . has a water tank with the zip code 31 <u> </u> on it for <u> </u> . . . headed out toward <u> </u> . . . few houses and that's about it out this way. Back on 142 going toward <u> </u> , with a grain elevator on the left . . . on the right is a line with about <u> </u> Martin gourds on it painted silver and gold, truly an amazing site to behold. That is it for this side of town. Going out north toward <u> </u> which is 13 miles away is a post office in a trailer . . . a <u> </u> Methodist Church with stained glass windows, loud speakers on the top, also some pretty towers. There is also a <u> </u> Lumber Company, phone number <u> </u> .
2/20	Met with Karen <u> </u> , city clerk, who is to discuss with mayor . . . I am to call mayor in a few days
3/1	T/C from Mayor <u> </u> to me at home - discussed project & arranged to meet with town council the next day, Thurs., 3/2/78
3/2	Met with most of town council . . . presentation, slide/tape program . . . group fairly supportive . . . antic. problem in identifying people . . . <u> </u> will be in touch with me . . . Attendance: 1. Mr. <u> </u> , Mayor, Fire Chief, Plant Owner, Box <u> </u> , <u> </u> 2. Mrs. <u> </u> , Secretary, Box <u> </u> , <u> </u> 3. Mr. <u> </u> , Grocery Store Owner, <u> </u> (S.D.) 4. Mrs. <u> </u> , Retired Teacher, <u> </u> (S.D.) 5. Mr. <u> </u> , Truck Driver, <u> </u> (S.D.)

GENERAL INFORMATION FORM

COMMUNITY

Date	Comments
4/17/78	Meeting with Mr. <u> </u> Mayor. . . Mr. <u> </u> indicated that they had described the project to several community members with the result being that five were interested at the moment. He asked if two was the maximum number we can handle and I assured him that that was it. . . he said that their problem, of course, now is to select two . . . I reiterated the criteria form and told him that within a week or two I'd like to know who the couple were that were picked so I could get in touch with them, describe the project, and they needed to do and so forth. It would appear to me that we need to identify what information we need from each of these candidates (mailing address and so forth) so that we can send out material ahead of time to them if that's appropriate.
5/10	<i>T/C with <u> </u> ... she says they are still sitting on five candidates ... one is Council member's wife, another is woman, & other three are firemen ... Council doesn't want to vote ... they want either Mayor or me to select ... I suggested that I meet with the 5 + Mayor or Council and vote each ... she will discuss with Mr. <u> </u> and call me back</i>
6/9	<i>Visited <u> </u> at his place</i>
6/12	<i>T/C with Mrs. <u> </u> ... she thinks situation is still the same ... will tell Mayor I called and to hurry up</i>
6/23/78	Meeting with Mr. and Mrs. <u> </u> . . . Mr. <u> </u> indicated that he had delayed in contacting me in hopes that some of the 5 or 6 people who had expressed an interest in being an EMC would drop out. . . He was particularly concerned about the first person to indicate an interest in becoming an EMC. This lady is one of the council member's wife and from what I can gather is a good candidate with the exception that she is frequently running various errands. Her name is <u> </u> and she lives in the first house on the left on 83 south, going toward <u> </u> . Her husband's name is <u> </u> and can be reached at <u> </u> Farm in <u> </u> during the day. Apparently Mrs. <u> </u> was one of the first people to volunteer for the EMC program. The other candidate is Mr. <u> </u> who operates the cabinet shop on Highway 11. He had previously indicated that, if <u> </u> was the other EMC, he didn't want

GENERAL INFORMATION FORM

COMMUNITY

Date	Comments
6/23 (cont.)	to go, but apparently has changed his mind. I indicated to Mr. [redacted] that I would contact both of these people by phone and would let him know what the outcome was.
6/26	T/C with Mrs. [redacted] ... she is going to Statesboro on the 31 st and works in [redacted] 6 hrs/ds. ... because of this, she says might be better to go with someone else although she's interested and will do if necessary
6/26	T/C with Mrs. [redacted] re above ... asked her to get 3rd candidate from [redacted] ... bus. # for [redacted] is [redacted]
6/27	T/C from with [redacted] ... he's ready
6/29	T/C with Mrs. ... candidates are 2 [redacted] persons, the mayor, and [redacted] wife ... mayor will let me know
9 -	Arranged town mtg thru T/C from [redacted] for Oct 4 ... covered dish supper at 07, town mtg shortly thereafter
10/3	T/C from [redacted] to me at home ... everything's ready ... he has advertised in paper
10/4	mtg with 100 - 150 folks, incl. sheriff, EMS Dir, Co. Com. [redacted] 15-20, firemen who had CPR training, plus Mrs. [redacted] [redacted] [redacted] [redacted] [redacted] [redacted] [redacted] [redacted] [redacted] [redacted] ... good crowd

APPENDIX B
EMC SURVEYS

EMC QUESTIONNAIRE

- (1) 1 Card
(2) 3 Test Number
(3) Interviewer
(4-6) Schedule Number
(7-8) Code City
(9-11) Telephone Number (Prefix)
(12) Day (Circle one)
 1 Sunday 4 Wednesday 7 Saturday
 2 Monday 5 Thursday
 3 Tuesday 6 Friday
(13) Session (Circle one)
 1 Morning
 2 Afternoon
 3 Evening
(14) Type of Town
 1 Control
 2 Exp.
(15) 1 Unincorporated
 2 Incorporated

INTRODUCTION

My name is _____ and I am with the Georgia Institute of Technology in Atlanta. Are you the head of the household (Are you the wife of the head of the household)? We are conducting a household survey as a part of a research project which involves _____. Your home was chosen in our sample and I would like to talk to you about _____ and the provision of certain services in _____. Your answers are very important to the accuracy of our survey. Of course, all your replies are confidential. This survey will take about ten minutes of your time.

- (17) (Relationship to household head)
 1 Head
 2 Wife of Head
 3 Husband of Head
 4 Other

2.1 I would like you to tell me what you would do if the following situations happened:

a. Suppose you had a head cold for two days..Would you seek help from anyone about this?

(19)

1 Yes*

2 No (Go to b)

9 No Answer

*(If yes) Who would you call first?

(20-21)

01 Doctor

02 Ambulance

03 Hospital

04 Police

05 Fire Department

06 Relative

07 Friend

08 Operator

09 EMC

10 Other _____

99 No Answer

If _____ was not available, who would you call next?

(22-23)

01 Doctor

02 Ambulance

03 Hospital

04 Police

05 Fire Department

06 Relative

07 Friend

08 Operator

09 EMC

10 Other

99 No Answer

b. Suppose you had a sore throat for a week...Would you seek help from anyone about this?

(24)

1 Yes*

2 No (Go to c)

9 No Answer

*(If yes) Who would you call first?

(25-26)

- 01 Doctor
02 Ambulance
03 Hospital
04 Police
05 Fire Department
06 Relative
07 Friend
08 Operator
09 EMC
10 Other _____
99 No Answer

If _____ was not available, who would you call next?

(27-28)

- 01 Doctor
02 Ambulance
03 Hospital
04 Police
05 Fire Department
06 Relative
07 Friend
08 Operator
09 EMC
10 Other _____
99 No Answer

c. Suppose you saw a car accident and someone was seriously injured...
Would you seek help from anyone about this?

(32)

- 1 Yes*
2 No (Go to d)
9 No Answer

*(If yes) Who would you call first?

DO NOT ASK

- | | | | | |
|---------|-------------------|-------------------|---------------------|--------------------|
| (30-31) | <u>01</u> Govt. A | <u>04</u> Comm. A | <u>07</u> Control A | <u>10</u> Change A |
| | <u>02</u> Govt. B | <u>05</u> Comm. B | <u>08</u> Control B | <u>11</u> Change B |
| | <u>03</u> Govt. C | <u>06</u> Comm. C | <u>09</u> Control C | <u>12</u> Change C |

(33-34)

- 01 Doctor
- 02 Ambulance
- 03 Hospital
- 04 Police
- 05 Fire Department
- 06 Relative
- 07 Friend
- 08 Operator
- 09 EMC
- 10 Other _____
- 99 No Answer

If _____ was not available, who would you call next?

(35-36)

- 01 Doctor
- 02 Ambulance
- 03 Hospital
- 04 Police
- 05 Fire Department
- 06 Relative
- 07 Friend
- 08 Operator
- 09 EMC
- 10 Other _____
- 99 No Answer

- d. Suppose your neighbor was chopping wood and deeply cut his leg...
Would you seek help from anyone about this?

(37)

- 1 Yes*
 - 2 No (*Go to question 2.2*)
 - 9 No Answer
- *(If yes) Who would you call first?

(38-39)

- 01 Doctor
- 02 Ambulance
- 03 Hospital
- 04 Police
- 05 Fire Department
- 06 Relative
- 07 Friend

08 Operator

09 EMC

10 Other _____

99 No Answer

If _____ was not available, who would you call next?

(40-41)

01 Doctor

02 Ambulance

03 Hospital

04 Police

05 Fire Department

06 Relative

07 Friend

08 Operator

09 EMC

10 Other _____

99 No Answer

2.2 Please tell me if you agree, disagree or are undecided about the following statements:

- (45) a. If your neighbor suffered a serious injury, medical help would probably arrive in eight minutes.
 1 Agree
 2 Disagree
 3 Undecided
 9 No Answer
- (46) b. When you need a doctor, he is hard to find.
 1 Agree
 2 Disagree
 3 Undecided
 9 No Answer
- (47) c. In an emergency, one should accept help from a community member (that is, someone from _____) who has first aid training.
 1 Agree
 2 Disagree
 3 Undecided
 9 No Answer
- (48) d. Medical care is not easy to get in a hurry.
 1 Agree
 2 Disagree
 3 Undecided
 9 No Answer
- (49) e. Emergency medical care for _____ is too far away.
 1 Agree
 2 Disagree
 3 Undecided
 9 No Answer

2.3 Do you have a list of emergency numbers available to you?

- (50) 1 Yes*
 2 No (go to question 2.4)
 9 No Answer

*(If yes) Where is the list?

- (51) 1 In Telephone Book
 2 On Telephone
 3 Next to Telephone
 4 Carry With Me in Pocket
 5 Other _____
 9 No Answer

Whose numbers are on the list? (Place a "1" beside services on the list. Place a "0" beside services not on the list.)

- (52) _____ Doctor
 (53) _____ Hospital
 (54) _____ Police
 (55) _____ Fire Department
 (56) _____ Ambulance
 (57) _____ Sheriff
 (58) _____ Rescue Squad
 (59) _____ EMC
 (60) _____ Other _____
 (62) _____ Other (EMC) _____

How did you get the list?

- (63) 1 Doctor
 2 In Phone Book
 3 In Phone Book With Additions by Self
 4 Police
 5 Self Made
 6 Fire Department
 7 In Mail
 8 From EMC
 9 Other _____

- (64-65) 2.4 Where is the nearest ambulance?
 City _____ (Refer to key for coding.)
 9 No Answer
- (67-68) 2.5 Where is the nearest hospital?
 City _____ (Refer to key for coding.)
 9 No Answer
- (70) 2.6 Have you ever been in an emergency involving yourself or someone else?
 1 Yes*
 2 No (Go to 2.7)
 9 No Answer
- (71) *(If yes) Did you seek help?
 1 Yes**
 2 No (Go to 2.7)
- (72-73) **(If yes) From whom?
 01 Doctor
 02 Ambulance
 03 Hospital
 04 Police
 05 Fire Department
 06 Relative
 07 Friend
 08 Operator
 09 EMC
 10 Other _____
 99 No Answer
- (74) 2.7 Have you had first aid training?
 1 Yes
 2 No
 9 No Answer
- (75) 2.8 Do you know someone in your community who has first aid training?
 1 Yes
 2 No
 9 No Answer
- (76) 2.9 Do you have a family doctor?
 Yes*
 No (Go to 3)
 No Answer
 *(If yes) How far away is he?
 Miles
 No Answer

-
- (1) 2 Card
 (2) 3 Test Number
 (3) Interviewer Number
 (4-6) Schedule Number

- (7) 3. How would you rate _____ as a place to live?
- 1 Excellent
2 Good
3 Fair
4 Poor
9 No Answer
4. Please state the names of organizations that you often attend such as PTA, Lions Club, garden Club, church, etc. (Refer to key.)
- (8-9) (1) _____
(10-11) (2) _____
(12-13) (3) _____
(14-15) (4) _____
(16) (Write number of organizations below.) _____
5. Please state the names of organizations other members of your household attend.
- (21-22) (1) _____
(23-24) (2) _____
(25-26) (3) _____
(27-28) (4) _____
(29) (Write number of organizations below.) _____
6. Finally, I would like to ask you a few questions about yourself and your family.
- (35-36) a. How many people, including yourself, live in your house?

- b. What are their ages?
- (37-38) Head
(39-40) Spouse, Respondent
(41-42) Others
(43-44) _____
(45-46) _____
(47-48) _____
(49-50) _____
7. a. What is your occupation?
- (54-55) 01 Professional
(56-57) 02 Nonfarm-business managers, officials, proprietors
03 Farm owners and managers
04 Clerical and sales workers
05 Craftsmen, foremen
06 Skilled-manual labor
07 Unskilled laborers
08 Farm laborers
09 Housewife
10 In school
11 Retired
12 Disabled
- b. What is (the head of household or wife's) occupation?
- Code _____ Occupation (Head) 99 No Answer
Code _____ Occupation (Respondent) 99 No Answer

- (58-59) 8. How long have you lived in _____.
Years
99 No Answer
9. How many years of schooling have you completed?
10. How many years of schooling has your (husband or wife) completed?
Education--Head
99 No Answer
- (60-61) Education--Wife or Respondent
(62-63) 99 No Answer
- (64) 11. What is your race?
1 White, Caucasian, European
2 Black, Negro, African
3 Other _____
9 No Answer
- (65) 12. Sex
1 Male
2 Female
9 No Answer

REMEMBER THE EMC QUESTIONS.

THANK YOU FOR YOUR COOPERATION.

EMC QUESTIONS

(If EMC was an answer in Section 2, ask * questions only.)

- (66) 1. Is there anyone, other than an ambulance or physician, you would call in your town in the event of a medical emergency?

☐ Yes

☐ No

(If yes) ask Who?

☐ EMC (If mentions EMC-do not ask Question 2.)

☐ Not EMC

- (67) 2. Have you heard of the Emergency Medical Care Program ¹⁾ in your town?

☐ Yes

☐ No (Do not ask remaining questions.)

- (68) *3. Do you happen to know the names of the Emergency Medical Coordinators in your town?

☐ Yes

List: _____

☐ No

- (69) *4. How did you find out about this program?

☐ 1 Meeting

☐ 5 Newspaper

☐ 2 Neighbor, Relative

☐ 6 Radio

☐ 3 Phone Sticker

☐ 7 Around Town

☐ 4 EMC

☐ 8 Other _____

- (70) *5. Is there any reason why you would not call the Emergency Medical Coordinator in case of a medical emergency?

☐ Yes

Explain: _____

☐ No

- (71-72) *6. How far are you from the center of town? _____

- (73) *7. Is that in the City limits? ☐ Yes ☐ No

- (74) *8. Did you receive a phone sticker? ☐ Yes ☐ No

¹⁾ If needed, explain term as follows:

(#) people from your town were trained in Atlanta last summer to respond to medical emergencies that might occur in (town).

CONFIDENTIAL EMC QUESTIONNAIRE

PAGE 1

Name: _____

Town: _____

Age: _____ years Sex: _____ Male _____ Female

Number of Children: _____ Ages: _____

Number of years of education

Elementary School _____ years

High School _____ years

Completed High School? _____ Yes _____ No

College _____ years

Highest Degree Completed: _____

Major in College: _____

Occupation: _____

How far from the center of your town do you live? _____ miles

If you have a full-time job, do you work in town? _____ Yes _____ No

How far from the center of your town do you work? _____ miles

On a typical weekday, how many hours would you be away from your community? _____ hours

Have you had any medical training before the EMC program? _____ Yes _____ No

If yes, please check the type of training.

_____ RN	_____ Military (Medic)
_____ EMT	_____ First Aid Course
_____ LPN	_____ CPR Course
_____ Other (List) _____	

Number of years since last first aid course (before EMC training).

_____ Years _____ Never had a first aid course before
EMC training

Are you taking any first aid related courses now? _____ Yes _____ No

Name of course: _____

Are you thinking of taking any first aid related courses? _____ Yes _____ No

Name of course: _____

(over)

Confidential EMC Questionnaire
Page 2

Do you have a private phone at home? ☐ Yes ☐ No

Do you have a car available to use? ☐ Yes ☐ No

How many total years have you lived in or near this community? _____ Years

How were you selected to become an EMC? _____

Please list any activities or groups (like PTA, Lions Club, Vol. Fire Dept., City Council, etc.) in town in which you have been active. Include offices held (like Mayor, Secretary of PTA, etc.).

Since the training program, have you had any contact with EMCs outside of your town?
☐ Yes ☐ No

If yes, please list the names of the EMCs and the purpose of the contact.

Have you visited an emergency room, hospital, or ridden with ambulance personnel since becoming an EMC?

☐ Yes ☐ No

If yes, please fill in below.

<u>Date</u>	<u>Activity</u> (visit to hospital, emergency room, ambulance)
_____	_____
_____	_____
_____	_____

Have you been involved in any EMC-related activities since the training program (i.e., high blood pressure screening, talk to civic group, newspaper articles, radio shows, etc.)

☐ Yes ☐ No

If yes, please list activities.

EMC QUESTIONNAIRE

Circle the answer that most closely represents your feelings about the question.

Example: Judge Kaplan should be a Baskin Robbins dealer.

Strongly Agree Agree Undecided Disagree Strongly Disagree

1. Most people in my town should have some first aid training.

Strongly Agree Agree Undecided Disagree Strongly Disagree

2. The EMC Project is very worthwhile.

Strongly Agree Agree Undecided Disagree Strongly Disagree

3. EMCs should be in all towns having no doctor or ambulance service.

Strongly Agree Agree Undecided Disagree Strongly Disagree

4. I feel confident that I can handle the emergency medical problems in my community.

Strongly Agree Agree Undecided Disagree Strongly Disagree

5. I feel that most of my time will be well spent in being an EMC.

Strongly Agree Agree Undecided Disagree Strongly Disagree

6. The EMC idea will work in my town.

Strongly Agree Agree Undecided Disagree Strongly Disagree

7. My wife/husband does not object to me being an EMC.

Strongly Agree Agree Undecided Disagree Strongly Disagree

8. I have the necessary equipment to handle the emergencies I have been trained for.

Strongly Agree Agree Undecided Disagree Strongly Disagree

9. I feel uneasy about giving first aid.

Strongly Agree Agree Undecided Disagree Strongly Disagree

10. The whole town should know about this project.

Strongly Agree Agree Undecided Disagree Strongly Disagree

11. My special skills will probably be needed very infrequently.
Strongly Agree Agree Undecided Disagree Strongly Disagree
12. The majority of the town already knows about my special training as an EMC.
Strongly Agree Agree Undecided Disagree Strongly Disagree
13. EMCs and ambulance personnel will work well together.
Strongly Agree Agree Undecided Disagree Strongly Disagree
14. There will be strong community support for the first aid work done by the EMCs.
Strongly Agree Agree Undecided Disagree Strongly Disagree
15. I would have liked someone else in town to have been the EMC.
Strongly Agree Agree Undecided Disagree Strongly Disagree
16. Most people in town know that I am trained in emergency first aid.
Strongly Agree Agree Undecided Disagree Strongly Disagree
17. Accident victims are not likely to want EMC first aid service.
Strongly Agree Agree Undecided Disagree Strongly Disagree
18. My wife/husband thinks that being an EMC will take up too much of my time.
Strongly Agree Agree Undecided Disagree Strongly Disagree
19. First aid work is extremely challenging.
Strongly Agree Agree Undecided Disagree Strongly Disagree
20. EMC first aid attention will usually be unnecessary since an ambulance can be at the scene of an emergency in a few minutes.
Strongly Agree Agree Undecided Disagree Strongly Disagree
21. Because of EMC first aid training, an emergency victim receives better care than he would have otherwise.
Strongly Agree Agree Undecided Disagree Strongly Disagree
22. There is a lack of appreciation and understanding of the EMC project in my town.
Strongly Agree Agree Undecided Disagree Strongly Disagree

EMC Questionnaire
Page 3

23. I felt obligated to become an EMC because no one else in town would volunteer.

Strongly Agree Agree Undecided Disagree Strongly Disagree

24. Before the EMC Program, emergency care was too far away.

Strongly Agree Agree Undecided Disagree Strongly Disagree

25. I usually volunteer for all community projects which are worthwhile.

Strongly Agree Agree Undecided Disagree Strongly Disagree

26. Overall, I am very satisfied with the EMC project.

Strongly Agree Agree Undecided Disagree Strongly Disagree

27. The EMCs will probably receive very few prank calls.

Strongly Agree Agree Undecided Disagree Strongly Disagree

28. The EMCs will probably receive very few non-emergency calls.

Strongly Agree Agree Undecided Disagree Strongly Disagree

29. I am very enthusiastic about the EMC project.

Strongly Agree Agree Undecided Disagree Strongly Disagree

30. My role as an EMC is to respond to medical emergencies only.

Strongly Agree Agree Undecided Disagree Strongly Disagree

31. I feel uneasy about organizing community activities.

Strongly Agree Agree Undecided Disagree Strongly Disagree

32. I am very proud to be an EMC.

Strongly Agree Agree Undecided Disagree Strongly Disagree

33. Only the doctors should have the responsibility for the health programs in the community.

Strongly Agree Agree Undecided Disagree Strongly Disagree

34. I find real enjoyment in being an EMC.

Strongly Agree Agree Undecided Disagree Strongly Disagree

EMC Questionnaire
Page 4

35. Before the EMC training program, people called me all the time for medical emergencies.

Strongly Agree Agree Undecided Disagree Strongly Disagree

36. Do you have any complaints or praises about the EMC project? Feel free to express your opinions.

APPENDIX C

EMC LIST, LIFESAVING AWARD AND NEWSLETTERS

EMCs

(Alphabetical Listing)

Alexander, Ms. Janelle	Adairsville	Howle, Ms. Brenda	Dacula
Anderson, Mr. William	Lyerly	Hunter, Mr. Lee	Pendergrass
Barnes, Ms. Nancy	Walnut Grove	Jones, Ms. Delores	Lifsey Sprin
Bennett, Mr. Jim D.	North High Shoals	Kidd, Mr. Joe L.	Bostwick
Bennett, Mr. Samuel	Culloden	Kidd, Mr. Rufus E.	Carlton
Bishop, Mrs. Jack	Colbert	Kubler, Mr. Tom	Helen
Boswell, Mr. J. P.	Maysville	Lester, Mr. Jim	Lifsey Sprin
Boswell, Mrs. Louise	Maysville	Maddox, Mr. Lendgrin	Hoschton
Brannon, Ms. Peggy	Zebulon	McAteer, Ms. Mellie H.	Mt. Zion
Brooks, Ms. Jo	Emerson	McDonald, Ms. Kathy	Concord
Burrell, Mr. Billy Ray	North High Shoals	McGinnis, Mr. Richard W.	Bostwick
Cauthen, Ms. Mary Ann	Moreland	McLaughlin, Mr. Mickey	Waleska
Champion, Mr. A. J.	Shady Dale	Mobley, Ms. Linnea	Mansfield
Chandler, Mr. Chip	Carlton	Motte, Mr. Kenneth	Holly Springs
Cohen, Mr. Carl	Hoschton	Newman, Ms. Opal	Mt. Zion
Collier, Mrs. John (Linda)	Colbert	Peters, Mr. Merron	Good Hope
Collins, Mr. Clayton	White	Powell, Mr. Robert	Dacula
Cook, Mr. Ted	Talmo	Russell, Mr. David	Molena
Cooper, Mr. Jerry	Pendergrass	Rutherford, Mr. Bill	Holly Springs
Denny, Ms. Lottie	Mansfield	Roach, Ms. Janice	Alto
Dupree, Ms. Glenda	White	Satterfield, Mr. Ben	Dacula
Fletcher, Mr. Jerry W.	Talmo	Savage, Mr. David	Alto
Fowler, Ms. Wynell	Adairsville	Smith, Ms. Carmen	Emerson
Gwyn, Ms. Annie Mae	Zebulon	Stewart, Mr. Weldon	Arnoldsville
Haley, Mr. Jimmy	Hull	Swartz, Mr. Dick	Concord
Hall, Mr. Jere T.	Moreland	Tudor, Mr. Charles	Lyerly
Harris, Ms. Eleanor H.	Culloden	Ueltzen, Ms. Heidi	Braselton
Hamilton, Ms. Evelyn	Good Hope	Ueltzen, Rev. John	Braselton
Hawkins, Mr. Lewis	Molena	Wells, Ms. Virginia	Meansville
Hines, Mr. Walter	Whitesburg	Westbrook, Mr. Edward	Shady Dale
Hobbs, Ms. Beth	Luthersville	Williamson, Mr. Luther	Luthersville
Hite, Mr. John	Whitesburg	Wilson, Ms. Charlotte	Hull
Hoffman, Mr. Milton	Primrose	Wood, Dr. H. K.	Waleska
Hoffman, Mr. Steve	Primrose	Yocus, Mr. Wayne L.	Turin



EMC LIFESAVING CERTIFICATE

PRESENTED TO

*for administering
life-saving
first aid*

PROJECT DIRECTOR

PROGRAM INSTRUCTOR

DATE

Emc²

A NEWSLETTER FOR THE



March 1978

EMC — A Life-Saving Concept

In the next few months, the initials E-M-C are going to become quite familiar in homes around the rural areas of Georgia. The initials stand for Emergency Medical Coordinator, a concept of volunteer community life-saving that is bound to have a positive impact on the rural communities to be served.

One or two persons from 46 selected communities will be trained and equipped to become volunteer first responders to medical emergencies in their home communities. Much like the volunteer fire fighter, the Emergency Medical Coordinator will go about his or her regular daily duties until an emergency occurs. Community residents will have been informed of the number to call for the EMC and the first aid kit will already be waiting in the trunk of the EMC's car.

The EMC may be either male or female but must be in good physical condition and capable of taking the leadership in setting up this valuable program and keeping the community informed about it. An extensive first aid course will be provided through the Health Systems Research Center at Georgia Tech. EMCs who complete two intense weekends of course work will have the knowledge and experience to save lives in common emergency situations.

Even if a community has paramedics and ambulance service in the next town, there can be great value in having a volunteer Emergency Medical Coordinator who lives or works within the community. In life-threatening medical emergencies, the first four to six minutes can be the most critical. The EMC can almost always be on the scene and into action before an ambulance can arrive from a nearby town. The EMC therefore becomes a co-worker with the paramedics and the physicians, reducing the critical response time and "holding the fort" until the paramedics arrive and take over.

An Emergency Medical Coordinator is a simple, economical way to meet a serious community health and safety need in conjunction with existing emergency resources. The EMC experiment promises to have long-term national impact. It's a life-saving concept.



In this scene from the slide presentation *What Happens Now?* a volunteer Emergency Medical Coordinator is seen checking the pulse of a wreck victim while the ambulance is on the way.

Leaders Express Pleasure that EMC is Underway

As the activities of implementing the EMC volunteer network begin to pick up momentum, supporters have expressed good wishes and offers of continued assistance. The support of Georgia's Senators and Representatives has been a contributing factor in the successful launching of the project. The following statements of encouragement have helped to create the atmosphere of optimism which surrounds the beginning of the project.

"I am pleased to hear of this benefit-producing, worthwhile project. It will, I believe, be of service to a great many persons whose health and even life may depend on the quality of emergency medical care which they may receive as a result of this research."

—Senator Herman E. Talmadge

"In my opinion, this Emergency Medical Service project of the Health Systems Research Center at Georgia Tech could provide essential training and assistance in many unserved areas."

—Senator Sam Nunn



"I am particularly interested in following the developments of the Rural Emergency Medical Coordinator program. I feel that programs like this can be wise and productive use of the taxpayer's money."

—Wyche Fowler, Jr., Congressman, 5th District

"Clearly, this study is of great importance to improving emergency medical care in rural areas, and I am confident that the findings will verify this."

—Doug Barnard, Jr., Congressman, 10th District

"I am gratified that you have received funding for this project and am hopeful that it will serve to benefit the people of the Ninth District of Georgia... I want to express my appreciation for the work done at Georgia Tech in behalf of Health Services Research."

—Ed Jenkins, Congressman, 9th District

This project is supported by Grant Number HS 02507 from the from the National Center for Health Services Research, DHEW

EMC Staff Goes Looking for Volunteers

Five staff members of the EMC project have embarked on a heavy schedule of visits to communities within an eighty mile radius of Atlanta. Initial investigations located forty-six communities which could meet the qualifications for participation in the EMC project. Participating communities must have populations of less than two thousand and have no physician or emergency services within the community.

The staff members making the visits in the twenty-two counties are Dr. Bonnie J. Kay, Ms. Darlene Kishbaugh, Dr. Justin A. Myrick, Mr. Julian V. Pittman, and Mr. Nelson F. Sayford. During their visits with community leaders and various organizations, the staff will be explaining the details of the EMC approach and seeking the individuals with the ability and dedication to become volunteer Emergency Medical Coordinators.

Volunteer is one of the key words in the EMC project. Communities that qualify must want to be included and the EMCs themselves have to be people who are committed enough to the public service concept that they will give time, effort, and perseverance.

"We recognize that there are a lot of miles to travel and a lot of hands to shake," said Dr. Myrick, EMC Project Director, "But we think that finding the right volunteers is one of the most important steps in the whole effort."

For additional information about EMC, contact...

Ann A. Bailey
Director of Information,
Health Systems Research Center,
Georgia Institute of Technology,
Atlanta, Georgia 30332,
(404) 894-4555

Graduate Student Assigned to EMC Project

Gloria Doebling came to Georgia Tech from the frozen north country around Minneapolis, Minnesota. She is a graduate student in the School of Health Systems and, in addition to her study schedule, works part time as a research assistant on the EMC project.

Gloria's study emphasis is data analysis and she has already been involved in the computer selection of towns which might qualify as EMC experiment sites. At present, Gloria and others are conducting a telephone survey and analyzing the responses with regard to distances, times, and specific service needs as perceived by the public.

Gloria misses the Minnesota snow but intends to work and see some other parts of the country before returning.

A 2½ Year Project with Long-Term Potential

The EMC project, officially entitled "Rural Volunteer Emergency Medical Coordinators," seeks to demonstrate that lives can be saved in crucial emergency medical situations by training volunteer emergency medical coordinators to provide initial care for victims of hemorrhages, strokes, heart attacks and other serious emergency conditions prior to the arrival of professional medical assistance. The communities selected will not have formal medical resources such as physicians, clinics, ambulance services or hospitals. Two coordinators will be selected from each community qualified under the project's specifications and will be trained in Atlanta in advanced first aid and emergency treatment.

Officers of the project's sponsor, the National Center for Health Services Research of the Health Resources Administration, call the project "both unique and potentially significant. The problems of response time, a critical factor in survival of patients who are severely ill or injured are particularly difficult to deal with in rural communities. While many attempts have been made to solve the problem of rural emergency medical care, the concept of well-trained and well-known volunteer EMCs who can serve as a point of contact and first response is an important development."

Dr. Justin A. Myrick and Dr. Bonnie J. Kay of Georgia Tech's Health Systems Research Center and School of Health Systems, will serve as project leaders of the two-and-one half year research effort. Along with Nelson F. Sayford, assistant research engineer, and Julian V. Pittman, research scientist, Drs. Myrick and Kay will call on community and government leaders in the rural towns and communities during the next 2-3 months to explain the project and to assist the leaders in selecting the volunteers. During the course of the project, medical resources in each community will be identified and communication and coordination procedures set up with physicians, ambulance services, and nurses in neighboring towns. The identity and phone numbers of the EMC volunteers will be well publicized in the various communities so that the populace will be well aware of the availability of the EMCs in emergency situations.

At the conclusion of the project, if it has been demonstrated that EMCs can be a critical factor in the survival of patients in emergency medical crises, the research project findings will serve as a model for instituting the concept in other rural communities of the nation.

The Difference

Dacula, Georgia is located about thirty-eight miles from Atlanta in eastern Gwinnett County. It has a population of just over 1500 and no doctor or emergency service.

On the day in 1977 when little Pam Wages had a sudden, unexplained seizure and stopped breathing, she was at home with the other Wages children. Their parents had left for work...the babysitter was a few minutes late...the nearest ambulance was located in Lawrenceville, fifteen minutes away.

By the time the ambulance screamed to a halt in front of the Wages home, David Hightower of Dacula's three-man police force had arrived in time to revive Pam Wages.

The difference between life and death in this case was not expensive equipment...but a trained first responder who was near enough to make a difference. The EMC program deals in one commodity which is often the single difference between life and death...the difference is time.

EMC Training to Be Thorough and Complete

Volunteers for the Emergency Medical Coordinator position will receive thorough and complete training, modeled after the Red Cross Advanced First Aid Course. The course will be taught on two weekends in Atlanta for each group of EMCs to be trained. Classes will have about thirty-five students and utilize the latest training equipment, techniques, and films. EMCs will learn to use the equipment in the professional First Aid kits which are to be supplied by each participating community.

Some of the subjects to be included in the intensive training include: types of wounds; control of hemorrhage; use of splints and bandages; artificial respiration; treatment of fractures, dislocations, and joint injuries; cardiopulmonary resuscitation; poisoning and burns; heart problems and heart attack; airway control; emergency childbirth; and the legal and ethical considerations of first aid.

In addition to the first aid aspects of the training, EMCs will be provided with instruction and materials to help get the program established in their home communities. A color slide-tape presentation and various print pieces will be available to help the EMC explain the program. Public service advertising and phone stickers with emergency numbers will also be provided.

It will not be easy to be an EMC...but there will be adequate training and plenty of help for the volunteers. Not an easy job...but very satisfying.



Excitement Grows over the JULY TRAINING FOR EMCs.

As the two EMC weekends of training draw nearer, there is rising excitement and anticipation among the staff at Georgia Tech, the scheduled trainers, and those who are planning to attend. Ninety-two EMCs from forty-six communities will attend the intensive training sessions at the beautiful Century Center Hotel on July 14, 15, 16 and again on July 28, 29, 30.

Each weekend the training will begin on Friday evening and continue through Sunday afternoon. The all-day schedule on Saturdays will be relieved by some time off for a Braves game (against the Phillies on July 15th and against the Expos on July 29th.)

One special opportunity for the trainees will be the presentations by Judge Arthur Kaplan, one of the best-known first aiders in the country. Though he earns his living as an attorney and judge of the Municipal Court for the City of Atlanta, General Division, Arthur Kaplan has been a volunteer first aider for approximately thirty years. He has received seven Certificates of Merit awarded by the Red Cross and signed by four U.S. Presidents. These are awarded for "rendering aid that saves a life." Judge Kaplan does the first aid training for every Atlanta and DeKalb County policeman and many FBI and Secret Service agents.

When Judge Kaplan is conducting a training session, it is anything but a dry lecture. His years of experience enable him to provide high-impact life and death illustrations of each principle being discussed. After one Arthur Kaplan lecture, a member of the audience smiled and said, "I am worn out ... I feel like I have saved five lives in the last thirty minutes."

The courses will be taught at the level of the Red Cross' "Advanced First Aid and Emergency Care" and the Department of Transportation's "Crash Injury Management." The lectures of Judge Kaplan will be interspersed with films, demonstrations, small group discussions, and hands-on experience with life-saving techniques. The large group presentations will be reviewed and expanded in a number of small group sessions. Each of the small groups will have less than ten students to each instructor. Every effort has been made to assure that the two intensive weekends will result in effective training. There is no chance for the participants to be spectators — the emphasis will be on learning by doing.

The EMCs will have already begun their studies by the time they arrive for the first weekend. The textbook (Emergency Care by Grant and Murray) and a self-instructional workbook (which is coordinated with the text) are being sent in advance to all EMCs. Each EMC will have read the text and completed the workbook before the training sessions begin.

The use of weekends for the training was chosen to allow all EMCs the opportunity to gain the necessary training without having to be away from their regular weekday jobs. The schedule also allows some time for the first half of the information to sink in before the second half begins.

All expenses for lodging, meals, transportation, and materials are paid for by the project. The two weekends promise to be hard work but quite enjoyable for those who have volunteered to become Georgia's first volunteer community Emergency Medical Coordinators.



The beautiful Century Center Hotel will be the site of the two weekends of EMC training, July 14, 15, 16 and July 28, 29, 30.



The overhead projector casts some eerie shadows as Judge Arthur Kaplan explains life-saving techniques to one of his many classes.

EMC We're Here to Help!

This project is supported by Grant Number HS 02507 from the National Center for Health Services Research, DHEW.

"An 18-year non-credit course"

Though the EMC Project was only begun in 1977, the ideas for it have been gathering for years in the mind of Justin Myrick. As a researcher at Georgia Tech's Health Systems Research Center, Dr. Myrick collaborated with Dr. Bonnie Kay to write the proposal which eventually was funded by the National Center for Health Services Research and began the EMC Project.

In addition to college degrees and other information about those who would work on the project, the original proposal explained that Myrick had pursued "an eighteen year non-credit course in rural sociology." This unique wording was chosen to highlight the fact the Myrick had lived from birth until college age in a rural community with a population of 628.

Growing up in Saint Joseph, Tennessee was the surest training in the world for someone who would eventually become involved in designing emergency delivery systems for rural communities. Because his father was a well-known teacher and community leader, Myrick observed from close range the tasks involved in the creation of a volunteer fire department, the provision of city sanitation facilities, the construction of an outstanding baseball park, and the start-up and follow-through on many school improvements.



Justin A. Myrick

After leaving Saint Joe for college, Justin Myrick gathered a valuable resume of professional degrees and varied experiences. Before coming to Georgia Tech, he worked as a systems engineer in several national corporations including some time at NASA in Houston, Texas.

Roots in rural America have proven a great asset to Justin Myrick in his work in health systems. He says, "Growing up in that environment has really made me sensitive to the problems of delivering emergency care in rural areas. There's a lot of that background in the design for this EMC Project. The idea of a first responder is not a new concept, but the opportunity for the community to choose who their responder will be is certain to have strong impact on the use of those responders once they are trained."

"We're trying to develop a system of response, rather than just the training of responders. The project combines three areas: (1) selection of two volunteers by the community, (2) training of those volunteers through the project, and (3) setting up an ordered system of response."

EMCs and EMS

Several people have asked the question, "What is the relationship between the Community EMC program and the existing Emergency Medical Services (EMS) program being planned and implemented by the State."

The State of Georgia has an excellent staff of people who are working in the EMS area to improve services to the residents of the state. This group is the Emergency Health Unit of the Georgia Department of Human Resources. Included in this group are a number of EMS Coordinators who are full-time staff persons responsible for multi-county regional EMS planning and implementation. These individuals should not be confused with the Community EMC who is a volunteer and whose focus is the single rural community where he or she lives.

There are three things to consider when looking at the relationship between EMC and EMS. First, the EMC program is geared to rural communities who have no physician or ambulance service and are dependent upon nearby communities for the delivery of emergency services. Second, the EMC program is not to circumvent or replace existing patterns of emergency response. Rather, the program provides a quicker first response to maintain life while professional help is on the way. Third, the EMC program is an experimental program. While it is expected that each of the 46 rural communities will achieve many benefits, none of these benefits has yet been proven. Therefore, a major goal of the EMC effort is to determine the nature and extent of the benefits of the concept, thus providing valuable information for EMS planners as they consider the problems of delivering emergency medical care to rural areas.

During the course of the project, Georgia Tech will keep the Emergency Health Unit and various other EMS-related groups apprised of project activities, so as to enhance their planning capabilities. Groups with which information will be shared include the Emergency Health Services and Advisory Council, Health Systems Agencies, the HEW Region IV Office, various EMS councils, the Department of Highway Safety, and others. Through the exchange of information relating to this project, it is hoped that more effective EMS delivery systems can be designed, utilizing available resources in every community.

Meet Dick and Kathy of Concord

One of the most enthusiastic responses to the EMC opportunity has been by the people of Concord in Pike County near Griffin, Georgia. The two EMCs from Concord have impressive backgrounds and are really looking forward to the training weekends.

Dick Swartz was originally a farm boy from Flint, Michigan. He worked for a while as a surgical technician and emergency room staff member at Harper Hospital in Detroit before moving to California. In Ventura, Dick ran a boat yard and was self-employed doing furniture refinishing and custom building.

Over three years ago, Dick and his wife decided they wanted to move back east and show the children a more natural life style. They made a careful study of all aspects and established Georgia as the place to settle. Then, they spent five weeks traveling the Piedmont region carefully evaluating farms and communities. The decision to settle in Concord has been a fortunate one and the Swartz family is a well-established part of the community life.

Dick is self-employed as a cabinet and furniture maker and is also constructing his own home on his farm. He expects to complete the home in about three years. It will be made of stone and timber from the farm itself. Dick and Marian have

four children: a boy 15, a girl 14, and boy-girl twins who are 9.

Kathy McDonald is originally from the Atlanta area. She and her husband, John, wanted to move to the country so they bought a farm in Snellville, east of Atlanta. Within a couple of months, Atlanta began to sprawl over Snellville. With the dirt roads disappearing under paving and the farms turning into subdivisions, the McDonalds started looking for another farm.

About a year ago, they moved to Concord where they are really enjoying their farm where they raise "apples and worms." The apples are on one part of the farm and the fishing worms are on another part — they are not growing the worms in the apples as some of their friends have teased.

Kathy's first aid background goes back to four years as a Water Safety Instructor and working as a swimming pool life guard. She says that she really learned to appreciate the repetition and drill of the training when she met her first emergencies and found herself doing the right things automatically. She also developed a system for teaching swimming and diving to retarded children and that system is still in use in Georgia.



September 1976

EMC Training a Tremendous Success

In announcing the EMC training programs, the last issue of EMC² said that, when Judge Arthur Kaplan is teaching a class, "it is anything but a dry lecture." The readers of that statement may have thought it an exaggeration but, now that the training weekends have passed, just ask any EMC. They will tell you that you never know what to expect when Arthur Kaplan is teaching.

Not only does Kaplan have you laughing one minute and crying the next, he really knows how to dramatize a serious point so that you can never forget it. At one point in the training, three screaming women ran into the classroom pursued by a scruffy-looking man with a gun. The class sat stunned as the gunman fired blanks at the women. The women fell to the floor. The gunman escaped. The students found themselves with three simulated gunshot victims.

On another occasion, Kaplan took the class out to the pool for water retrieval instruction. "Seems like the fudge will never just tell you something if there is a way to tell you *and show you*," said one evaluator. "That man is an exceptional teacher."

The sixty-nine EMCs from nineteen counties would certainly agree. At the closing banquet, the students presented their teacher with a special appreciation award. The people of the city of Atlanta have long benefitted from Arthur Kaplan's life-saving expertise — now it begins to spread out to the rural communities of Georgia in the form of trained, competent first responders for local emergencies.

An equally important aspect of the training was the repeated emphasis on what the EMCs *cannot* do. Judge Kaplan and the other instructors made sure that the EMCs were often reminded of the limitations of their training. An EMC is no "junior doctor" and is not trained to diagnose, to give medical advice, or to transport injured victims. The EMCs are first responders—they may give first aid that can save a life but they always relinquish to and cooperate with emergency or medical professionals when they arrive on the scene.

The intensive 40-hour course prepared the EMCs to deal with every kind of emergency "from bee stings to baby birth." Graduates of the combination course were awarded the American National Red Cross' certificate for Advanced First Aid and Emergency Care, Atlanta Area Technical School's certificate in Crash Injury Management, and the Georgia Heart Association's Heart Saver certification in CPR.

The training sessions were featured on Atlanta weekend television news on WSB-TV and WAGA-TV. The banquet and awards night featured speakers including John Pruitt, anchor man for WXIA-TV news and Wayne Schumann, Director of the Emergency Health Unit of the Georgia Department of Human Resources. Chris Riggall of Congressman Wyche Fowler's staff was also in attendance. Also on hand to spread the EMC story were a reporter from the *Atlanta Journal-Constitution Magazine* and a film crew from Newsweek Productions.



*"Showin'
is better than
tellin'."*



This project is supported by Grant Number HS 02507 from the National Center for Health Services Research, OASH.

Bonnie Kay...what?

One of the pleasant events connected with the EMC Training was the opportunity for new EMCs to establish friendships with the personable staff of the Project. The EMC team from Georgia Tech is made up of people who are highly respected in the national ranks of Health Systems professionals. At the same time, they are easy to meet and fun to be around.

Bonnie Kay did her doctoral dissertation in the field of family planning counseling at Northwestern University in Chicago. Since that time, she has authored several publications and completed additional research on this timely topic. She is a popular speaker at professional conferences.

At Georgia Tech, Dr. Kay teaches undergraduates and graduates in the School of Health Systems and serves as Co-director of the EMC Project along with Dr. Justin Myrick.

Bonnie Kay has to suffer the frustrations of an incomplete name. Often, when she makes a new acquaintance and tells them her name, the response is, "Bonnie Kay...what?" Perhaps this is the reason so many of her professional writings appear under the name "B. J. Kay."

In addition to her professional attainments, Bonnie has traveled to most parts of the world. She served five years



Bonnie Kay

in Ghana in the Peace Corps, worked on projects for the American Friends Service Committee in Hayogev, Israel and in Pageland, South Carolina, and has even visited Cuba and China to study the health care delivery systems in those countries.

Bonnie's background and preparation have made her a perfect partner in the EMC team. She is optimistic about the spread of the EMC concept to other parts of the country. She says, "I have really been impressed with the highly-motivated volunteers in this project. We are going to do our best to provide the support to match their enthusiasm. The quality of the group raises the chances of the project succeeding and of being replicated throughout the United States."

Don't Forget to...

1. Keep an informal, daily record of your work as an EMC. You might be surprised how much you can improve your services by simply getting your procedures and habits down on paper where you can evaluate them more objectively.

2. Fill out incident reports on everything, even if it seems an insignificant call, and even if you are unable to get to the call. Go ahead and flood the EMC office with information...that's where the answers will be found about this project.

3. Send in bits of news for this newsletter. Make it an inter-communication tool for the whole EMC family. Something that you learn through experience could be a real help to another EMC. Share the good news through EMC.

4. Keep in touch with Ann Bailey as you get involved with any publicity activities. Ann has the experience and expertise to make your publicity efforts easier for you and more effective for your community.

5. Never hesitate to ask. You are providing an important service to the people of your community. They will be willing to help...but you have to be willing to ask.

6. Let people know you are around. Ken Motte gets a pat on the back for being the first person spotted wearing his EMC patch. He had it on his volunteer fire fighter's uniform and was seen in a Marietta Western Sizzlin' by a bearded spy from EMC Central. Keep those patches, stickers, and license plates out where people can see them — they can save lives!

EMCs Hit the Ground Running

The new EMCs barely had time to get home from the training and sew on their patches before opportunities began to occur. Billy Ray Burrell received a call from the sheriff about a car wreck injury. John and Heidi Ueltzen gave aid to the driver of a transfer truck when he had been severely injured in an accident. Carl Cohen gave CPR to a heart attack victim at a roller rink.

These and other opportunities came without the planned efforts to inform the communities of the EMCs' presence...even before the EMC program was in full swing. "The enthusiasm of these individual EMC volunteers is obviously going to be one of the strongest assets of this project," commented Justin Myrick, EMC Project Director. "Even after we have developed the EMC system as much as we can, the success of the whole idea relies heavily on the initiative and drive of the individual EMC."

Glenda Dupree, Jo Brooks, Merron Peters, Evelyn Hamilton, Lottie Denny and others have already taken advantage of opportunities to visit hospitals and become familiar with ambulances and emergency equipment. Annie Mae Gywn and Peggy Brannon visited an emergency room and a morgue.

Carmen Smith, Glenda Dupree, Jo Brooks, Jim Bennett, and Billy Ray Burrell are going to EMT school. In Concord, Dick Schwartz and Kathy McDonald have contacted the newspaper, the radio station, and some local industries. They will have a blood pressure booth in the Concord Fair in October and already have 47 people signed up for a CPR clinic.

Others are busy scheduling appearances before community and school groups and getting to know local ambulance and law enforcement personnel. All these early successes are encouraging and promise that things are going to get better and better as the Project's momentum continues to build.

EMC

Information

894-4555

Emc²

A NEWSLETTER FOR THE



January 1979

Refresher Training Planned

January 26 and 27 have been set as the weekend dates for the EMC Refresher Training Course. The EMCs will meet at the Century Center for a Friday evening and all-day-Saturday training opportunity.

"This Refresher Course was part of the original proposal," said Nelson Sayford, who is coordinating the arrangements. "We knew from the first that continuing training would be necessary to assure the high quality performance the project requires."

Judge Arthur Kaplan will be the primary instructor during the Refresher Training. With his usual innovative teaching style, Judge Kaplan will emphasize simulation and practical situations.

Registration will be from 6:00 p.m. to 7:30 p.m. Friday evening. After a dinner from 6:30 p.m. to 7:30 p.m., the EMCs will have a two-hour program for updates and discussion of situations encountered in the first months of establishing the EMC service in communities around rural Georgia.

Saturday morning breakfast is from 8:00 a.m. to 9:00 a.m. The morning will be taken up with CPR review and practice. After lunch, CPR practice will continue and there will be General First Aid review with a question-and-answer session. The Saturday sessions will end at 4:30 p.m.

The Refresher Training will offer an opportunity to refine first aid skills and techniques and to exchange ideas with others in the EMC network.

Georgia's EMCs Becoming Known Across the Nation

The successes of Georgia's EMCs are being spread across the nation as project staff members make presentations to professional organizations and governmental agencies. Continuing requests for information about the project indicate the eagerness of community leaders and health care professionals for a first responder system that works.

Like a proud parent, Justin Myrick always makes it a point to tell about his EMCs whenever he is asked to lecture, participate in a seminar, or make a presentation. He says, "I find that audiences get my message a lot quicker when I give them a real-life illustration from something our EMCs have done here in Georgia. Human interest seems to make any concept easier to learn."

In the past few weeks, Dr. Myrick has conducted a seminar for government and other health care professionals in Washington and a Rural EMS Systems Workshop at the Rural Health Conference in Reno, Nevada. His sessions are attended by those with interests in rural health care, self care, health manpower training and utilization, health care planning and resource allocation, community organization, and cost containment with specific regard to the delivery of emergency medical services.

Keep Those Reports Coming In

Valuable information continues to flow into the Georgia Tech office from EMCs in the field. The simplified report form provides each EMC with a way of recording a lot of information with a minimum of time. Because of the form's design, only a few check marks and well-chosen words are required to completely describe a complex accident.

Reports are sent in for three different kinds of situations. Each situation is equally important to the project's evaluation since all three demonstrate the project's impact on the community. An accident report form is to be completed:

- ...if the EMC is called and responds,
- ...if the EMC is called and does not respond, or even

- ...if the EMC is not called but later hears about the incident.

Remember that your reports will accumulate to demonstrate the effectiveness of the EMC concept. List everything you do, including calming and reassuring the victim and monitoring pulse and respiration. The actual pulse rate and blood pressure should be recorded whenever possible.

Thanks for caring



Wayne Schumann, Acting Director of the Georgia Emergency Health Unit, proudly displays an EMC auto tag to help spread the word about the Project.

This project is supported by Grant Number HS 02507 from the National Center for Health Services Research, OASH.

"Rural Sociologist" — another way of saying...

Darlene Kishbaugh is the EMC staff member with the fanciest title. She is a Rural Sociologist, which, she says, is a fancy name for somebody who "likes the country." Through Darlene grew up in a city, she decided to study Rural Sociology because she loves country living.

Darlene grew up in Wilkes-Barre, Pennsylvania, where she received a B.A. in Sociology from Wilkes College. She was still at Wilkes College in the summer of 1972 when the famous flood hit the valley. She spent the rest of that summer shoveling mud out of basements and helping to renovate her family's home which had water and mud damage on three floors.

After Wilkes College, Darlene went to Penn State, where she received an M.S. in Rural Sociology. Graduates in this field usually go into teaching, research, and/or agricultural extension work. Darlene worked first as a Research Scientist in Dauphin County, Pennsylvania on a project to get rural and urban leaders working cooperatively.

As an EMC Project staff member, Darlene has been working with the computer and other evaluation aspects of the program. She is also the Community Coordinator for five of the EMC communities.



Darlene Kishbaugh

Besides tennis and dancing, her favorite leisure time activity is riding the horse that she co-owns with Kathy McDonald, an EMC from Concord. The horse was named Misty when they bought it but Darlene calls it *Kilher* (like KILL HER!) now after finding out rather suddenly that Misty is a former barrel racer!

Darlene says, "It's nice to have EMCs in the community when you're going to ride a horse like *Kilher*. I have told the EMCs in Pike County that, when they see my horse going by without me, they should grab their kits and come find me."



FIRST AID

by Judge Arthur Kaplan

(Editor's Note: The First Aid column will become a regular feature of the newsletter.)

Primary and Secondary Survey

Too often the EMC will overlook the obvious in search of the inobvious. Hopefully, as you have all been instructed, an effective primary and secondary survey will be conducted after the initial triage is completed.

The primary survey is to determine what, if any, life threatening circumstances exist at that moment. To overlook or minimize this aspect could indeed be devastating and the proximate cause of irreversible or irreparable damage or of death itself.

For the EMC, regardless of what your level of training might be, it is mandatory in every phase of emergency care that the life threatening conditions of stoppage of breathing, inadequate heart function, severe hemorrhage, shock and poisons be immediately alleviated and the patient stabilized and hopefully, the condition can subsequently be reversed.

The secondary survey should include checking of the pulse, respiration, pupils, skin temperature, skin color, blood pressure, state of consciousness, reaction to pain and ability to move. All have a very significant and definite place within the overall assessment and treatment of the patient, both from the emergency care and subsequent medical treatment.

The EMC should not permit himself to be pressured or hurried by others, thereby preventing accurate examining of patient and documentation of his findings.

The above procedures are not only necessary to provide proper emergency management and care of the patient, but it also affords the EMC justification for his acts or omissions in the event legal action, either civil or criminal, might be instituted against the parties involved with the care and treatment of the patient.

If the EMC has been prudent towards the patient referred to in the procedures set forth above and has rendered such care as is indicated and proper documentation made, it could indeed be important in defending any negative allegations that might be made against the EMC.

Remember, you must have a reason for what you do and without proper examination, it's virtually impossible to justify your acts.

EMC-NOTES

Judge Arthur Kaplan has been honored as an Outstanding Atlantan by the City of Atlanta Employees Club who presented him with the Phoenix Award for Outstanding Public Service and Leadership. The award was presented on December 5th by Mayor Jackson.

Glenda Dupree finished EMT training December 14. John Ueltzen completed additional CPR training. As a result of EMC interest, Junior Champion contacted the Covington Fire Department and arranged to have the entire Shady Dale Volunteer Department trained in CPR. And wait till you see the Shady Dale and Concord EMCs in their sharp new jackets!

Blood pressure screening booths have been showing up at carnivals and community festivals in Dacula, Brazelton, Holly Springs, Moreland, Luthersville, Concord, and Shady Dale. Nancy Barnes is providing first aid coverage at all the local high school football games.

Special thanks to Captain Julian Spence of Atlanta Police Department and Mr. Ted Smith and Mr. Harold Jones of Grady Memorial Hospital for arranging for some of the EMCs to ride with police rescue units and Grady Ambulances. Some of the riders have included David Russell of Molena, Annie Mae Gwyn of Zebulon, Virginia Wells of Meansville, Glenda Dupree of White, Jo Brooks of Emerson, Charlotte Wilson and Jimmy Haley of Hull, and Milton and Steve Hoffman of Primrose.

**You are the key.
You are the key.
You are the key.**

First Things First

A friend was telling a group of us about an accident she saw the other day. "The poor man was hit by a red convertible, and down he went," she cried. "When I got to him he was lying in the road, one leg cut and bleeding, and the other all bent out of shape."

"All of a sudden my first aid training came back to me, and I stooped right down and put my head between my knees to keep from fainting!"

—Rosalyn H. Finch in the
Atlanta Constitution



July 1979

EMCs Can Qualify As CPR Instructors

CPR INSTRUCTORS' COURSE PLANNED

The refresher training course planned for August 10, 11, and 12 at the Century Center Hotel will constitute a special opportunity for EMCs. Besides providing a valuable review of CPR information and technique, the weekend will also make it possible for EMCs to become certified CPR instructors.

The Red Cross 16-hour CPR Instructor's Course will be offered in two hard-working days. Mr. Frank Pfennig, Director of Safety Services for the Red

Cross, will coordinate the instruction.

The course will review CPR modular instruction briefly before introducing the various aspects of setting up and conducting a community CPR course. Administrative activities and teaching technique are discussed as well as the steps involved in the use of the workbooks, cassettes, and other equipment used in such a course. Students will also learn to recognize and correct the common mistakes made by CPR classes.

The training makes use of Resuscitator practice mannequins and self-instructional media equipment. EMCs will receive a modular CPR workbook in advance and will be expected to work through the manuals before the workshop begins.

This valuable training has been arranged in response to requests from a number of EMCs, who expressed an interest in offering CPR training in their communities.

Why Do Some EMCs Get More Calls?

As data on responses by EMCs begin to accumulate, it becomes obvious that a significant difference in EMC service has to be attributed to how energetically the service has been promoted in the local community.

While six EMCs have already reported ten or more cases, as many as twenty EMCs have reported no cases. While there should be no competition involved in this numbers game, it is easy to see that the difference is greater than could ordinarily be attributed to community accident rates.

It might be argued that people are calling the first name listed on their phone stickers. Yet, interestingly enough, approximately half the calls have gone to the first EMC listed and approximately half the calls to the second EMC. Does this mean that people are calling the EMC they know ... or the one closest to them ... or perhaps the one with the easiest phone number?

Another explanation for the wide range of cases reported could be paper work procrastination. Perhaps, some EMCs are seeing cases that they forget to fill out forms on. The forms are very important — even if the case is extremely minor. The statistics from the EMC Project will be influential in future decisions about the expansion of such a service to the whole nation.

The most obvious difference that can be found so far is that some EMCs just work harder than others at getting the word out to their communities. Some are recognizing and grabbing publicity opportunities that others are overlooking.



The Madison County EMCs gather in Colbert to help Marie and Linda stretch their July 4th banner. Pictured from left: Marie Bishop, Charlotte Wilson, Jimmy Haley, Rufus Kidd, and Linda Collier. Chip Chandler was not present.

Madison County EMCs

Madison County is a beautiful rural area northeast of Athens and is well-served by six outstanding EMCs in three communities.

Marie Bishop of Colbert is the mother of four children and three grandchildren (maybe four by the time you read this). Marie works as a bookkeeper at Reliance Electric. Her husband is a Development Engineer with Wellington-Puritan Co. Marie's hobbies are reading, macrame, and EMC, of which she is a real booster. Says Marie, "It just takes one life for it all to be worthwhile."

Linda Collier of Colbert works as an aide at Colbert Elementary School. Her

husband, John, is an animal mortician at the University Vet School in Athens. John and Linda have one child, Andy, who is seven.

Chip Chandler of Carlton is the proprietor of T.K. Harty's Saloon in Athens. Chip and his wife have lived in Carlton for four years. Chip holds the world's record for the 100-mile Helen-Atlanta Canoe Race. On the way to enter that race, Chip had a chance to provide emergency first aid to the driver of an overturned pick-up truck in Banks County.

Rufus Kidd owns Comer Texaco and also works as a substitute mail carrier. Rufus and his wife have lived in Carlton since 1961. They have one daughter who is twelve.

Jimmy Haley has lived in Hull for six years. He works as a Delivery Supervisor for Gulf Oil Company in Athens and enjoys swimming, bowling, and working with the EMTs.

Charlotte Wilson of Hull repairs clocks for General Time Co. Her husband, Terry, is a Sales Representative for the Gerber Company. They have three daughters, ages 10, 7, and 3.

If the Project staff can help you in any way toward your local publicity efforts, just let them know.

Over-all, the EMC Project appears to be succeeding. Perhaps the next challenge we all face is finding the ways to get more consistent results from one community to the next.

This project is supported by Grant Number HS 02507 from the National Center for Health Services Research, OASH.

EMC NOTES

Because of the valuable nature of the information being gathered through the Project, the EMC staff has requested a six-month extension of the Project's time line.

Several EMCs have had babies recently, though none of them have reported using the OB kit. Peggy Brannon of Zebulon had a boy on January 10 and named him Billy. Linnea Mobley of Mansfield had a boy on April 16 and named him Joseph. Ben Satterfield of Dacula had (with help) a fourth little girl on November 9, 1978. The baby's name is Deigh.

Glenda Dupree of White has been awarded the Woodmen of the World "Lifesaver Commendation Award" for saving the life of a man who was pinned

in the wreckage of his car in January, 1979. The victim's airway was obstructed and was opened by Mrs. Dupree — without which action the man would have ceased breathing.

Colbert EMCs Marie Bishop and Linda Collier had an EMC float in the parade at Colbert's Fourth-of-July Festival. About 3,000 people attend the annual celebration which features, in addition to the parade, arts and crafts, picking and singing, and lots of good food. Following the parade, Marie and Linda held a blood pressure clinic in the booth area and were on hand with their emergency medical kits to help anyone who got overheated, injured, or otherwise affected by a crowded Independence Day gala.



EMERGENCY MEDICAL CARE

by Judge Arthur Kaplan
CPR

Several years ago in an unusual breakthrough in psychiatric medicine at the Medical College of Georgia, physicians diagnosed a patient with three distinct and separate personalities. This unusual breakthrough led to inquiries from all over the world from both professional and lay people. Subsequently, a motion picture known as the *Three Faces of Eve* came to the screens of motion picture theaters all over the United States.

Just a few short years ago, another startling development in the field of medicine suddenly surfaced. It was known among professionals as external cardiac compressions. This procedure shortly developed into what we know today as CPR or cardiopulmonary resuscitation. People from all walks of life have suddenly expressed an interest in learning how to perform this technique. Like the *Three Faces of Eve*, CPR also has three distinct phases as will be described below. Just how this phenomenon came into existence and to whom it is attributable — the news media, television or some other source — is really not of significance. What is of significance is that lay people by the hundreds of thousands are receiving training in CPR.

What, if anything, does this mean to the emergency personnel who are charged with the proper care of a victim in cardiac arrest? There are some critics who feel that CPR is being over-emphasized and that general first aid

training for the public is being compromised. Others say that the multitude of people already trained in CPR will never have the opportunity to use this technique. In other words, how many citizens will have the opportunity to see a person in ventricular fibrillation or in cardiac arrest? Still others raise the issue of possible legal complications and exhibit a degree of hysteria that is virtually without merit or justification.

If one takes a close look at CPR, it is evident that this technique is more than just external cardiac compression. Like the *Three Faces of Eve*, CPR has three phases. Let's assess for just a brief moment the first phase of CPR — the airway. Any person, whether he be physician, EMT, paramedic, EMC or whatever, knows that it is critical and imperative that the airway be established and maintained. Without the airway, a person's life cannot be sustained.

Let's take the second phase of CPR — breathing. If indeed we have established an open airway but there is an absence of respiration then it again is mandatory for the emergency personnel to be proficient and able to establish an exchange of air within the victim. Taking only these two phases of the CPR procedure and training, people who are proficient in the application of these would indeed prevent death or serious complications in untold thousands of people within our society. Thus, to train people in the basic philosophy and procedures of airway management and artificial respiration as taught in CPR is the third phase — the circulation phase — will certainly give us all a much safer country to live in.

This column will endeavor in the next three issues of the EMC newsletter to present to the readers the three phases of CPR: (1) airway, (2) breathing, and (3) circulation.

Proposed Law to Require Photo-Identification for Emergency Personnel

A proposed state law will require that anyone on board an ambulance be able to produce identification and some indication of certification. The EMC Identification Cards should fulfill this proposed requirement and should continue to be used even if the law is not passed. People expect (and deserve) to know who is giving them first aid in an emergency.

EMC's Half-Nelson

Theoretically, the EMC Project gets only half of Nelson Sayford's time and attention. The other half is supposed to belong to Georgia Tech's School of Health Systems. In reality, Nelson quite obviously carries a full work load in both areas.

In addition to teaching and other responsibilities, Nelson coordinates most of the physical arrangements for the EMC Project. That can become a big job when there is a training session to set up or equipment to be ordered and distributed to all EMCs. Nelson has the kind of job that is taken for granted until something goes wrong. For example, Nelson insists that, contrary to public opinion, he does not cook the food at the EMC training programs.



Nelson Sayford

Nelson lived in Chattanooga until he was three, then in Nashville to age nine. His family then moved to Ponte Vedra, near St. Augustine and he still claims Florida as home.

He came to Atlanta to study Industrial Engineering at Georgia Tech and graduated in 1971. Subsequently, he went to work with the Health Systems Research Center on the development of its educational programs, which later became the School of Health Systems.

Nelson is active in youth work at church, as a Big Brother for the past 2½ years, and taking part of his vacation to be a counselor at the Atlanta Bible Camp. Says one of his campers, "Nelson seems to be more interested in the kids than most of the counselors I've seen. He really tries to help them with their problems."

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A NEWSLETTER FOR THE



May, 1980

IT'S TRAINING TIME AGAIN

The EMC Recertification Training Session is scheduled for May 16 and 17. This weekend will be a time for intensive training in vital emergency first aid skills. It's also an excellent opportunity for old EMC friends to see each other again.

The meeting will be held at the Century Center Hotel, a now-familiar gathering place to staff and "students" alike. The weekend will begin with registration and a dinner on Friday evening.

On Friday evening and all day Saturday instruction headed up by Judge Arthur Kaplan will cover *Advanced First Aid and Emergency Care and Crash Injury Management*. Specific topics to be taught include handling emotionally disturbed persons and emergency childbirth, bleeding control and handling unconscious persons.

This weekend will culminate in recertification of the EMCs in the skills which have made them so valuable to their communities.

EMC Recertification Training Session

Friday, May 16

6:00 - 7:00	Registration and Dinner
7:00 - 8:00	Primary and Secondary Survey
8:00 - 8:45	Emergency Care Questions and Answers
8:45 - 9:00	Break
9:00 - 10:00	Small Group Meetings with EMC Staff

Saturday, May 17

7:00 - 8:00	Breakfast
8:00 - 9:45	EMC Project Meeting
9:45 - 10:00	Break
10:00 - 11:00	Airway Maintenance and Handling Unconscious Victims
11:00 - 12:00	Bleeding Control
12:00 - 12:30	Checkout
12:30 - 1:30	Lunch
1:30 - 2:30	Handling Emotionally Disturbed Persons
2:30 - 3:30	Emergency Childbirth
3:30 - 3:45	Break
3:45 - 5:30	Fractures and Splinting
5:30 - 6:00	Break and/or Review Questions
6:00 - 7:00	Written Exam
7:00 - 8:30	Dinner and Presentation of Certificates

Jackson County's Hard-Working Volunteers



The Jackson County EMCs came together on a sunny Sunday afternoon — just before a fire called the volunteers to duty. In back are: J.P. Boswell, John Ueltzen, Lendgrin Maddox and Jerry Fletcher. In front are: Jerry Cooper, Ted Cook, Louise Boswell and Heidi Ueltzen.

Northwest of Athens lies Jackson County, where eight EMCs serve five communities on either side of a 27 mile stretch of Interstate-85.

John and Heidi Ueltzen are a father-daughter team from Braselton. John is the minister for the new Clear Springs Baptist

Mission Church in Roswell. Heidi is graduating this quarter from Gainesville Junior College. She will continue her studies in math or music at a university in the fall. John and his wife also have two teenage sons who are frequent helpers in emergencies.

Lendgrin Maddox, the EMC in Hoschton, has owned and operated Hoschton Auto Parts for eight years. He and his wife have two girls. Lendgrin also teaches CPR classes to civic and social groups.

Jerry Cooper and wife Peggy of Pendergrass have two girls, five-year-old Tressa, and Amy who will be two in May. Jerry teaches the mechanics program at Winder-Barrow High School, is a volunteer fireman and works with the Jackson County Rescue Squad. He has his certification as a Georgia EMT and is working on his bachelor's degree in Education.

Ted Cook supervises packing and shipping at Wayne Poultry in Pendergrass. He and Jerry Fletcher are the Talmo EMCs. Ted's wife, Virginia, works at Gold Kist. They have three grown children and a five-months-old grandson whom they "get to see about every day."

Jerry Fletcher is a federal food inspector at Wayne Poultry, where he has worked for 13 years. He is Fire Chief at North Jackson Volunteer Fire Department and also works with the Rescue Squad and Civil

(Continued on Back)

This project is supported by Grant Number HS 02507 from the National Center for Health Services Research, OASH.



EMERGENCY MEDICAL CARE

by Judge Arthur Kaplan

The Airway

Perhaps one of the most important phases of emergency care and one that is often overlooked or minimized is the establishment or maintenance of an open airway. Regardless of the nature of the victim's injuries, there is nothing that would take precedence over the establishing of the airway and insuring that your victim has an open airway and is able to breathe.

The airway can be lost or critically compromised either by virtue of anatomical obstructions such as accident-related problems, whereby a severe blow to the throat can precipitate the collapse of the trachea, or swelling that is residual from burns, corrosive poisons or inhalation of heated air that can block the air exchange.

Other problems that coexist can be precipitated by virtue of laryngospasm or other medically-related problems that attack the larynx, thereby decreasing the ability of the victim to breathe.

One of the most common of all of our airway obstructions is attributable to the tongue, which usually obstructs the throat when the person is unconscious and the head is bent forward, causing it to drop against the back of the thorax and over the larynx.

The accumulation of foreign matter such as vomit, blood, mucus, food, or other foreign objects that accumulate in the mouth, throat, or windpipe many times cannot be expelled from the airway by the victim through coughing or swallowing, and by virtue thereof create the very dangerous hazard of airway obstruction.

Although we have previously ascertained the flexed neck or foreign matter precipitates the most common forms of airway obstruction, there are nonetheless other phenomena such as occluded nasal passages, clamp-closure of the lips and teeth and spasms of certain parts of the anatomical system that comprise the respiratory tract.

Where there is a partial airway obstruction and the victim is able to cough forcefully, even though there is some wheezing, generally it will provide an adequate, though not total, air exchange. With this type of individual, it is best to let him continue his efforts to expel the object through his own efforts and not interfere with this process.

One of the most common symptoms is a "snoring" sound, which usually is indicative the air passage is obstructed by the tongue, and the "crowing" sound is indicative of laryngospasm, and the "gurgling" sound is indicative of foreign substances in the windpipe. Whenever

He's Just a Country Boy

"What I really like to do when I'm not taping music or listening to music is to hunt and fish. One of the fringe benefits of this project is the opportunity of pursuing these last two recreational activities with the EMCs, as well as just visiting and talking with real, down-to-earth people. It's just really good for me to be with people on the local level again."

Those words — good to be back with people — are sprinkled throughout Julian Pittman's conversation. He's been a Georgian "since day one," traveling and living in rural communities throughout the state, from hometown Edison in Calhoun County to Rabun County in north Georgia.

Julian received his Education degree from Georgia Southern and did his practice teaching in Savannah. He married Jo, also from Calhoun County, 11 years ago. She is now an elementary school teacher. Pictures of their daughter, five-year-old Brook, adorn his desk and shelves. "Fortunately," says Julian, "she favors her mother."

Improving medical services in rural areas has been one of his interests for many years. He worked with health professionals throughout metropolitan Atlanta and north Georgia as a program representative for the Georgia Regional Medical Program. His job included the identification of problem areas in health services on the local level. He helped solve those problems by working with providers and consumers in planning and initiating projects in categorical disease areas such as heart disease, cancer and stroke, and in primary and emergency health care.



Julian Pittman

Julian has been with the Health Systems Research Center since 1973. He was involved with three major and several minor research projects in emergency medical services prior to the rural EMC Project. He came to the Center originally to participate in EMS-related research, but his job has evolved into primarily one of research planning coordination and participation in the educational program of the School of Health Systems. It was with this experience that he joined the EMC Project Staff as the Community Coordinator for seven communities east of Atlanta.

Country music eases Julian's long drive into Atlanta from Lawrenceville every weekday, but come hunting season, he is eased most by those weekends that find him camouflaged in a field. He waits for a drove of doves, or tramps through the woods hoping to flush an unbelievably large covey of those slow-flying, boomerang-acting quail. Julian says, "Those are the quail specially grown in south Georgia that turn around and come back so I can try to hit them again!"

EMCs Note

Keep those incident reports coming in to the Center since they are vital to the successful evaluation of the program.

cyanosis is evident, it is indicative of oxygen inadequacy, almost always attributable to airway obstruction, pulmonary or cardiac insufficiency. When a person experiences a complete airway obstruction, in either a conscious or unconscious victim, the obstruction may be precipitated by what is commonly known as a "cane coronary." The symptoms, at first, appear to be indicative that the victim is suffering a heart attack, but in reality, he is trying, while still in a conscious state, to expel the foreign substance. Most times victims are unable to cough or speak and the usual reaction is to clutch the throat with the thumb and index fingers.

The unconscious victim who has sustained a complete airway obstruction does not demonstrate any sign of breathing.

In the next issue of the newsletter, we will discuss the various methods of treatment for the obstructed airway.

Jackson County

Continued

Defense. He and his wife Brenda have two girls. "Brenda's Greenhouse" is their working hobby, where they grow ferns.

J.P. Boswell has been Chief of Police in Maysville for eight years. He and his wife raised seven children and are grandparents to 11 more. J.P.'s spare time goes to working in the house and garden. He says, "When it comes to mealtime, we're still farm people!"

Louise Boswell married J.P.'s brother, Journey, in Irving, Kentucky, her hometown. They have two children, Roger, 15, and Melinda, 11. The family moved back to Maysville 14 years ago. Louise, an LPN at Banks-Jackson-Commerce Hospital, is recovering from surgery, but looks forward to a more normal life quite soon.

The Jackson County EMCs are enthusiastic about their roles in making their corner of the state a great place to live. Their willingness to work hard as community volunteers shows again the quality of the people who are Georgia's and the nation's first EMCs.

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A NEWSLETTER FOR THE



July, 1980

OUR NEW LOOK

In response to the comments from all of you at the last training session, we have decided to put out a more frequent and timely newsletter which, hopefully, will keep everyone up-to-date regarding EMC news. We will put this newsletter out once a month and are depending upon all of you for good news items. We hope you like our new look and that this newsletter will be useful to you in terms of keeping up with developments regarding the EMC program as well as what is happening around the state.

When you have news items, send them in to us in care of Ann Bailey at the address on the reverse side. If you speak to a group about the EMC program, hold a blood pressure clinic, conduct a CPR class, participate as EMCs in special events—let us know. Personal items are also welcome—births, marriages, and other events of interest to your fellow EMCs.

BONNIE KAY IS MOVING TO MICHIGAN

Dr. Bonnie Kay of the faculty of the School of Health Systems will be moving this month to Michigan where she will be teaching in the Department of Health Planning and Administration at the University of Michigan in Ann Arbor.

We all are sorry to see Bonnie leave us since she made many great contributions to the health systems program and shared the overall responsibility for the EMC program with Justin Myrick. Even though she will be in Michigan this summer for the most part, she will continue to work on the EMC project report.

She will begin her new duties in September in Ann Arbor, and we know that each of you will want to wish Bonnie well in her new academic position. For those of you who would like to drop Bonnie a line, her new address is: 723 West Madison, Ann Arbor, MI 48103.

The "Rural Volunteer Emergency Medical Coordinators" project is supported by Grant Number HS 02507 from the National Center for Health Services Research, HRA.

EMC TRAINING PROGRAM A GREAT SUCCESS

The latest EMC Refresher Training Program was held on Friday and Saturday, May 16 and 17 at the Century Center Hotel in Atlanta. At that time, those EMCs attending were given a refresher training course to update their American National Red Cross cards for three more years. Thus, the EMCs are now recertified in Advanced First Aid and Emergency Care through the American Red Cross.

The highlight of the program was the training in dealing with psychiatric emergencies and those emergencies which involve violent behavior. As usual, Judge Kaplan's lectures and demonstrations were not only very informative but also very "captivating!" (See related story on page 2.)

Judge Kaplan again did an outstanding job in the training program. From the start of the EMC project, he has devoted a tremendous amount of time to the training sessions, and his advice and counsel to the EMC staff helped to formulate basic directions for the EMC program. We know that all of you join the EMC staff in being grateful for the great amount of time and effort that Judge Kaplan has committed to this project. Julie Smith, his assistant, has also contributed much time to the project as well as providing a smiling face at all the training sessions. We are grateful to her as well.

EMC ASSOCIATION PLANNED

Based upon comments at the May Refresher Training Program, many of you were interested in creating an EMC association in order to further communications among EMCs and to get together periodically to share EMC ideas and experiences. The EMC staff thinks that this is a super idea and are eager to work with you in getting an association of EMCs organized.

We are requesting that those of you who have specific ideas in terms of how to begin an association or organize specific activities for the involvement of EMCs, please write Justin Myrick at the Georgia Tech address on page 2. The EMC association can do much to promote the EMC concept throughout Georgia and the rest of the United States. We are looking forward to having a strong EMC association developed and we know that many of you will be actively involved in this activity.

INCIDENT REPORTS NEEDED

Where have the first six months of 1980 gone! Some of you still have EMC incident reports outstanding for the first six months of the current year representing calls which you received and first aid assistance you have provided. We need these reports through the end of June 1980 as soon as possible.

These reports are critical to our ongoing evaluation of the EMC project and we would greatly appreciate your sending these in within the next couple of weeks. It is hard to emphasize how important these incident forms are to the long term success of promoting the EMC concept in other parts of the country. If you can help us with these, we would be extremely grateful.

TERRORISTS TAKE OVER EMC TRAINING SESSION THREE DEAD; GIRL HELD AS HOSTAGE

Judge Arthur Kaplan was giving some extra pointers on handling psychiatric emergencies when three armed guerilla-type terrorists stormed the recent EMC Recertification Meeting, shouting explicit obscenities and taking a pretty girl, Heidi Ueltzen, hostage. In the melee that followed three women were shot. The first to be gunned down was Glenda Dupree, Mayor of White, Georgia, who was pleading with the guerilla not to harm Heidi. In quick succession, two hysterical women, Ann Bailey and Annie Mae Gwyn, who were trying to escape, were felled. The guerillas had made their point and established control of the crowd.

With three bodies on the floor, gun smoke and gutter language filling the room, a muscled and hairy arm around Heidi's neck, all EMC hands up, the militants then made their demands—\$5,000,000, an airplane with enough fuel for a non-stop to "Eye-ran," and a safe escort to the plane. At this point, Judge Kaplan interceded and called for a negotiator from the audience to talk to the militants. He asked Rev. John Ueltzen to fill that role.

Rev. Ueltzen proved to be a skillful negotiator. Never tipping his hand that the hostage was his own daughter, he reasoned with the gunman and convinced them to lay down their weapons and surrender.

The "dead" arose, Heidi was released, and the "guerillas" joined the EMCs for the coffee break. Another "Kaplan Caper" had been successfully executed. One of the gunmen, incidentally, was the Judge's son, Dr. Ron Kaplan, whose street vocabulary is even more prolific than his father's. The other two were Sgt. Steve Schildecker and Kate Broyles of the DeKalb County Police Department. Broyles is an instructor at the pistol range of the department. Julie Smith coordinated the caper, and deserves our accolades for a successful show.

EMC MAY BE EXPANDED IN GEORGIA

The Georgia Tech staff is now in the process of seeking funding to implement the EMC concept statewide. Several agencies have expressed an interest in funding the EMC idea and we are now pursuing this funding. If the funding does come through, we will be implementing the EMC concept in various parts of Georgia and possibly the entire state, and we hope that many of you will be able to participate in some of these activities.

We will keep you aware of the ongoing developments in this process, and hope that the funding will be forthcoming shortly.

EMS DIRECTOR ADDRESSES EMC MEETING

We were very pleased to have Wayne Schumann as a guest at the May Recertification Meeting. Mr. Schumann, Director of the Emergency/Environmental Health Section of the Georgia Department of Human Resources, spoke very highly of the EMC program when he addressed the EMC group at the closing banquet. He commended the EMCs for their dedication and hard work and was optimistic that the EMC concept would be utilized in other areas.

Wayne Schumann has been very supportive of the program since its inception, and we are very appreciative for all the assistance he has given the EMC staff.

EMC NOTES

James D. Bennett, Helen, was married on Saturday, June 28 to Bonnie Lynn Darden at the Oak Grove United Methodist Church in Decatur, GA. All of us wish Jim and Bonnie Lynn much happiness.

Virginia Wells, Meansville, is now an EMT, joining many other EMCs who have taken their training one step further and have become certified EMTs.

Marie Bishop and Linda Collier, sporting their bright orange EMC tee shirts, were on hand at the Fourth of July festival in Colbert to provide emergency medical services as needed.

Nancy Barnes held a blood pressure clinic on June 24 at Walnut Grove's Town hall and took the blood pressures of 51 people. Nancy reports that her turnout rivaled that of local elections. Maybe Nancy should run for office!



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Emc²

A NEWSLETTER FOR THE



August, 1980

WANTED: IDEAS FOR AN EMC ASSOCIATION

Although there seemed to be a good deal of interest in forming an EMC association at the last training session, we have had no response to our request in the last newsletter for ideas and suggestions. This time we are going a step further and are enclosing a form (Yes! Another form!) for you to complete.

As considerable planning and lead time are necessary to organize the association, we need your ideas promptly. Please complete the form and return it to Justin Myrick as quickly as possible.

EMC PROJECT STAFF NOTES

The EMC project staff is currently involved in a number of activities related to emergency medical services:

Justin Myrick will talk about the EMC program in Oklahoma City in November, when he will attend an EMS workshop sponsored by the Department of Health and Human Services (DHHS).

Judge Arthur Kaplan is scheduled to take his "hostage simulation" and psychiatric emergency show to two locations in November: The University of Wisconsin in Madison and to a DHHS, Region IV meeting at Hilton Head. He will also lecture to a group of radiologic technicians in Dalton in October and is scheduled to participate in 1981 in an EMT meeting in Portland, Oregon and in a meeting of psychiatrists and psychologists in Baltimore.

Of special interest to EMCs will be the Judge's keynote address at the kickoff of the United Way Campaign in Augusta on September 9. This address will be televised, so check your local listings for the exact time and station.

Darlene Kishbaugh delivered a paper entitled "A Viable Alternative: Rural Volunteer Emergency Medical Coordinators" this month to a conference of rural sociologists at Cornell University. We hear that Darlene's paper was a big hit with the conference participants and stimulated much interest in the EMC project.

Although Bonnie Kay is now in Michigan, we hear from her frequently and she is still working diligently on the EMC final report.

STRONG COMMUNITY ACTION PROGRAMS CAN SAVE MANY LIVES, SAYS AMA

Strong community action programs teaching emergency first aid can save the lives of an estimated 200,000 heart attack victims annually, according to an article in the August 1, 1980 issue of the Journal of the American Medical Association.

The article entitled "Standards and Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiac Care," said that the drive to reduce death by heart attacks must be conducted by the community. Of these, about 350,000 die outside the hospital and within two hours of the heart attack.

"Since 60 to 70 percent of sudden deaths caused by heart attack occur before hospitalization, it is clear that the community deserves to be recognized as the ultimate coronary health unit," it said.

According to the report, the only chance for survival of many heart attack victims is resuscitation on the spot. Emergency first aid performed by citizens has been successful in about 40 to 60 percent of the cases.

FINAL REPORT ON EMC PROJECT UNDERWAY

The final report for the 36-month "Rural Volunteer Emergency Medical Coordinators" is now being prepared by the Georgia Tech research staff. When completed, the report will be submitted to the funding agency, the National Center for Health Services Research, and will be made accessible to others interested in the EMC concept through outside distribution centers.

The report will include chapters on: "Project Overview," "Program Implementation," "The Training Program," "EMC Performance," and "Program Impact." The final chapter will summarize the research staff's conclusions and recommendations. In short, the report will be the documentation of the demonstration project based on scientific data collected.

So, all those incident reports, all of Darlene's "attitude" questionnaires and telephone surveys, and other data is being put to good use.

SOMEBODY OUT THERE NEEDS YOU... IF NOT TODAY, TOMMORROW

"Sometimes you get despondent and think nobody is ever going to call," says Glenda Dupree. "Then 'Boom!', everything happens at once and then you know how much you're needed."

Glenda recalls how she went for about three months without a single emergency medical call. She felt her training was going to waste and that people in the community had forgotten about her as an EMC.

Then one Saturday this past spring when she was going about routine duties, she got a call to help a child who was having breathing difficulties. Answering that call, she possibly saved his life by helping to get him to a hospital immediately as he had acute double pneumonia. That matter handled, Glenda returned to her home, but not for long. Shortly thereafter she got a call to help a boy burned in a kerosene fire. She treated his burns and again returned home. But again, not for long, for she was summoned to a gas station where a girl was severely burned in the face when she removed the radiator cap from her car. Glenda treated those burns until the ambulance arrived.

With three emergency calls in one day, Glenda no longer doubted her worth. She says to tell all the EMCs, "Don't get disheartened. Someday somebody will really need you."

GOOD OLD SUMMERTIME IS HAZARDOUS

The living may be easy for some folks in the good old summertime, but not for many of our EMCs. The hazards of summertime outdoor activities have kept many of them very busy. Here are some of the emergency calls they have made in the past few months:

Peggy Brannon, Zebulon: Called to aid victim of bee stings (unfortunately, the victim died); gave aid to a lady who suffered a concussion in a ball game accident; helped resuscitate a baby who had fallen into a swimming pool.

Virginia Wells, Meansville: Answered call to help victim of a diving board accident who had a possible neck injury; splinted arm of another victim who had fallen from a diving board.

Mellie Golden, Mt. Zion: Aided teenager suffering from heat exhaustion at local ball park.

John Hite, Whitesburg: Attempted rescue of victim of creek drowning.

David Russell, Molena: Administered aid to a heat stroke victim.

So, good as it is, summertime may be dangerous to your health.

EMC NOTES

Chip Chandler, Carlton, recently returned home from a three month tour of Europe. We missed him at the last EMC training session but are aware that a one-night, two-day deal at the Century Center can't compete with a tour of the continent.

Marie Bishop, Colbert, just barely made the last meeting. She and her husband, Jack, left for Germany to visit their daughter and new grandchild on May 17, the second day of the training session. But Marie took and passed the recertification test before she left.

Glenda Dupree of White will be on television in October telling how she got involved in emergency care and became an EMC and EMT. She will appear in a documentary on health care sponsored by the Georgia Department of Human Resources to be shown in thirteen episodes. Wayne Schumann, Director of DHR's Emergency/Environmental Health Section, will also appear in the series. Watch your television schedule for actual dates and time.

Glenda has been an enthusiastic spokesman for the EMC project. In May she spent two days at the Cass High School in Cartersville lecturing to students in health occupation classes. On August 9 she talked to a group of senior citizens at a nutrition center about emergency care.

Reminder: We need items for this column as well as ideas for good feature stories.

EMC BROCHURE NOW READY FOR DISTRIBUTION

A brochure describing and promoting the EMC concept is now ready for distribution. The brochure, designed by editorial consultant Charlie Walton, will be sent to EMS directors and to others interested in the project. All EMCs will also receive a copy.



HEALTH SYSTEMS RESEARCH CENTER
Georgia Institute of Technology
Atlanta, Georgia 30332

Justin Myrick, Project Director, 404/894-4555
Ann Bailey, Dir. of Information, 404/894-4550



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EMC KIT INVENTORY SHEET

<u>Quantity</u>	<u>Item</u>
1	Lardal Pocket Mask
2	Cervical Collars (small and large)
2	Air Splints (leg and arm)
1	Burn Sheet
1	Multi-trauma Dressing
2	Packages of Kling Gauze (2" and 3")
2	Rolls of Adhesive Tape (1" and 2")
7	Airways (assorted sizes)
2	Bite Sticks
1	Snake Bite Kit
1	Jaw Spreader
1	Thermometer
1	Scissors
4	Triangular Bandages
2	Quick Cold Compresses
1	Poison Antidote Kit (5 bottles)
1	Box of Band-aids
1	Box of First Aid Cleansing Wipes
5	Wire Splints (folded in boxes)
1	Package of 4X4" Compresses
1	Flashlight (D cell)
1	Penlight
2	Dynaflex (Ace type) bandages
1	Roll of Sterile Foil
1	Vaseline Gauze Dressings (box)
1	Container
1	Bulb Aspirator
EXTERNAL ITEMS (some may be shipped separately)	
1	Ohio Medical Hope II Bag-Mask
1	Rescue Blanket
1	OB Kit (please keep intact until used)
1	Ring Splint
1	Stethoscope
1	BP Cuff
5	Board Splints
1	Brooks Airway

APPENDIX D
EMC ACTION DATA PAK

This booklet
designed and produced
by Charlie and Kay Walton
for the
Health Systems Research Center
Georgia Institute of Technology
under Grant Number HS02507 from the
National Center for Health Services Research, DHEW

The EMC's ActionDataPak

Name _____
Address _____
City _____ State _____ Zip _____
Day Phone _____
Night Phone _____



Dear EMC,

As you begin to think in terms of telling your community about the EMC services available, you will find this set of questions very helpful.

The questions on the following pages are easy ones but they will require you to make some calls and do some asking around. They are intended to help you organize the information you will need as you plan your public information effort.

Fill in every blank. It may take some checking around to get all the information but all of it is needed. Keep asking questions until you have your ActionDataPak completely filled. You will find that you will refer to it often.

If you are working with another EMC, it is suggested that both of you fill in the blanks separately at first. Then, get together and pool your information and plan a coordinated approach to spreading the word around.

Remember how important this part of the EMC's job is. You have to let the people know you are available or all your training and willingness will go to waste.

As you begin to contact those who can help make your message known, remember that you are offering the community a priceless gift free of charge. You are bringing something good for the community. They are bound to want to help and the only thing that can keep you from succeeding is to put off making the contacts or to fail to explain the program clearly.

We have the greatest confidence in you and we look forward to working with you. Whenever there is anything we can do to help, please call us.

Sincerely,

Justin A. Myrick, Ph.D.
EMC Project Director
Health Systems Research Center
Georgia Institute of Technology
404/894-4555

Phone Stickers

One of the surest ways to get EMC services used is to have the phone numbers of the EMCs on every telephone in the community. It is equally important that the caller get the closest ambulance service rolling toward the accident before calling the closer EMC. In order to have the stickers printed for your community, you will need to assemble the following information. Make sure you double check for accuracy on all these numbers.

1. What ambulance service is the most commonly used by the people in your community? _____

Name

Address

What is its emergency phone number? _____

How far away is it? _____ miles _____ minutes

Who is the person in authority at that ambulance company?

Title

Is it located in the same county as your community? _____

If not, in which county is it located? _____

Does the ambulance company have any restrictions that might apply to its service to your community? _____

2. What ambulance service is the second most used (or second closest) by people in your community? _____

Name

Address

What is its emergency phone number? _____

How far away is it? _____ miles _____ minutes

Who is the person in authority at that ambulance company?

Title

Is it located in the same county as your community? _____

If not, in which county is it located? _____

Does the ambulance company have any restrictions that might apply to its services to your community? _____

3. What other ambulance services are located in your county?

a.) _____
Name Address Phone #

b.) _____
Name Address Phone #

4. List the names and phone numbers of the community EMCs and their alternates.

Name _____ Day Phone _____

Night Phone _____

Name _____ Day Phone _____

Night Phone _____

Name _____ Day Phone _____

Night Phone _____

Name _____ Day Phone _____

Night Phone _____

Name _____ Day Phone _____

Night Phone _____

Name _____ Day Phone _____

Night Phone _____

Support Personnel

1. The closest doctor to the community is Dr. _____
 who lives in _____ Phone _____
 and has offices in _____ Phone _____
 Have you talked with him/her about the EMC program? _____

 To what extent is he/she willing to help? _____

2. The next closest doctor is Dr. _____
 who lives in _____ Phone _____
 and has offices in _____ Phone _____
 Have you talked with him/her about the EMC program? _____

 To what extent is he/she willing to help? _____

3. The hospital/emergency department most frequently used by
 your community is _____
 Have you talked with the hospital/emergency room personnel
 about the EMC program? _____

 To what extent are they willing to help? _____

4. The closest dentist is Dr. _____
 who lives in _____ Phone _____
 and has offices in _____ Phone _____
 Have you talked with him/her about the EMC program? _____
 To what extent is he/she willing to help? _____

5. The closest pharmacist is _____
 who lives in _____ Phone _____
 and works in _____ Phone _____
 Have you talked with him/her about the EMC program? _____

 To what extent is he/she willing to help? _____

6. The closest EMT is _____
 who lives in _____ Phone _____
 and works in _____ Phone _____
 Have you talked with him/her about the EMC program? _____

 To what extent is he/she willing to help? _____

7. Others with para-medical training include:

8. Some phone numbers you ought to have in your first aid kit:
 Police: _____ Phone _____
 Sheriff: _____ Phone _____
 Highway Patrol: _____ Phone _____
 Fire Department: _____ Phone _____
 Poison Information: _____ Phone _____
 Wrecker Service: _____ Phone _____
 Welder: _____ Phone _____
 Power Company: _____ Phone _____
 Local Electrician: _____ Phone _____
 Scuba diver: _____ Phone _____

Educating the Public

To tell people about the service you offer and to distribute your stickers, you will need to go where people meet and take advantage of every chance to make talks to groups. Try to find some local groups that will really get behind special projects like a blood pressure check-up booth or a safety inspection campaign for homes and businesses.

1. The most active community organization is the _____

Its regular meetings are held on _____
at _____

The person who plans the meetings is _____
_____ Phone _____

He/she has agreed to let me present the EMC concept at the meeting on _____

2. The second most active organization is the _____

Its regular meetings are held on _____
at _____

The person who plans the meetings is _____
_____ Phone _____

He/she has agreed to let me present the EMC concept at the meeting on _____

3. The third most active organization is the _____

Its regular meetings are held on _____
at _____

The person who plans the meetings is _____
_____ Phone _____

He/she has agreed to let me present the EMC concept at the meeting on _____

4. Other Community or Civic Groups and their Contact Persons:

5. Festivals, Fairs, and Other Opportunities for Exhibits:

6. Elementary School _____

Address _____

Principal _____ Phone _____

PTA Program Chairman _____ Phone _____

Best time to visit and tell about EMC _____

Middle School _____

Address _____

Principal _____ Phone _____

PTA Program Chairman _____ Phone _____

Best time to visit and tell about EMC _____

High School _____

Address _____

Principal _____ Phone _____

PTA Program Chairman _____ Phone _____

Best time to visit and tell about EMC _____

Other Schools and Contacts: (don't forget kindergarten!)

7. FFA, 4-H, Scouts, and Clubs

Group _____

Leader _____ Phone _____

Meeting time and location _____

Special interest in EMC _____

Group _____

Leader _____ Phone _____

Meeting time and location _____

Special interest in EMC _____

Group _____
 Leader _____ Phone _____
 Meeting time and location _____
 Special interest in EMC _____

8. Churches that might be interested in helping:

Church _____
 Contact _____ Phone _____
 Special interest _____

Church _____
 Contact _____ Phone _____
 Special interest _____

Church _____
 Contact _____ Phone _____
 Special interest _____

Advertising

There are lots of ways you can get advertising for the EMC program by just asking for it. Because this is a non-profit endeavor, it qualifies for the kinds of Public Service Announcements (PSAs) that news media (radio, newspaper, etc) are required to provide free of charge. Since it is also a valuable thing for the community, the news media should be eager to push it. Incidentally, anytime you can get your story told through a news story (when a reporter writes it), it has more impact than an advertisement (which looks as if you paid for it.) News coverage is the strongest form of advertising — it has more credibility. Whenever anything good happens, try to get it covered by the news media. It may make you feel a little like you are "blowing your own horn" but remember...if that news story brings your service to the attention of more people, it could very well save a life. All your training and all your willingness to serve could be wasted if you fail to let people know you are there to serve.

1. The newspaper that most people in our community read is:

Its mailing address is: _____

Its telephone number is: _____

My contact there is: _____ Title _____

2. The second most read newspaper in our community is: _____

Its mailing address is: _____

Its telephone number is: _____

My contact there is: _____ Title _____

3. School newspapers which might do articles on EMC

4. Regular publications that go out to homes from the Electric Company, the Phone Company, or other Utilities:

5. The radio station that most people listen to in our community is _____ located in _____.

My contact there is _____ Phone _____
 The station's policy on Public Service Announcements is

6. The second most listened-to radio station in our community is _____ located in _____.

My contact there is _____ Phone _____
 The station's policy on Public Service Announcements is

7. The places in our community that have outdoor signs with changeable letters are: _____

(Ask them to feature EMC on their signs some time.)

8. Utilities that send out regular bills to almost every home in the community are: _____

(Ask them to enclose your EMC stickers with one mailing.)

9. Groups that might be willing to make a few posters for local store windows are: _____

Notes

APPENDIX E
EMC INCIDENT FORM

COMMUNITY

EMC No.

EMC NAME

DATE

Mo Day Yr

DAY OF WEEK

TIME OF CALL : AM ☐ PM ☐

☐ EMC CALLED AND RESPONDED
(complete blocks 1 through 10 except 3 & 6)

☐ EMC CALLED BUT DID NOT RESPOND
(complete blocks 1, 2, and 3)

☐ EMC WAS NOT CALLED
(complete blocks 1 and 6)

EMC WAS CALLED

CALLER NAME:

CALLER PHONE:

AMBULANCE CALLED FIRST ☐ YES ☐ NO

WAS CALLER A
COMMUNITY RESIDENT? ☐ YES ☐ NO

TOTAL PERSONS NEEDING FIRST AID:
(use a separate form for each person)

VICTIM NAME:

VICTIM AGE (APPROX): RACE:

CALL ORIGINATED FROM
☐ WITHIN COMMUNITY
☐ OUTSIDE COMMUNITY

THE CALLER WAS
☐ VICTIM HIMSELF
☐ IMMEDIATE FAMILY
☐ OTHER RELATIVE
☐ COMMUNITY RESIDENT
☐ FIRE DEPT
☐ POLICE DEPT
☐ OTHER (specify)

WHEN CALL WAS RECEIVED, EMC WAS
☐ AT HOME ☐ AT WORK
☐ OTHER (specify)

CALL WAS ONE OF FOLLOWING
☐ TRAFFIC ACCIDENT ☐ ACCIDENTAL INJURY
☐ MEDICAL CONDITION ☐ OTHER INJURY

☐ A NON-EMERGENCY CONDITION (check below)

CALL WAS NOT AN EMERGENCY (check one)
☐ CALLER SOUGHT MEDICAL ADVICE
(specify condition)

☐ CALLER NEEDED ADVICE ON WHO TO CALL
☐ OTHER (specify)

EMC CALLED — DID NOT RESPOND

- ☐ APPARENTLY NOT AN EMERGENCY
☐ WITHOUT A CAR
☐ OTHER (specify)

EMC RESPONDED TO SCENE

- ☐ FIRST AID GIVEN BY YOU (Complete Blocks 7 through 10)
☐ FIRST AID NOT NECESSARY
☐ AMBULANCE ALREADY ON SCENE
☐ FIRST AID NOT GIVEN BECAUSE
(specify)

MINUTES (APPROX) FOR
EMC TO GET TO SCENE: MINUTES

MILES FROM EMC TO VICTIM: MILES
HOW LONG WERE YOU AT SCENE
UNTIL AMBULANCE ARRIVED? MINUTES

- LOCATION OF VICTIM:
☐ INSIDE HOME ☐ IN OR NEAR ROADWAY
☐ INSIDE BUSINESS ☐ IN OR NEAR SCHOOL
☐ NEAR HOME ☐ IN OR NEAR PUBLIC PLACE
☐ NEAR BUSINESS
☐ OTHER LOCATION (specify)

- SEVERITY OF PATIENT CONDITION:
☐ MINOR ☐ CRITICAL
☐ MODERATE ☐ DEAD
☐ SEVERE

AMBULANCE RESPONDED

WERE YOU CALLED BEFORE THE AMBULANCE? ☐ YES ☐ NO
DID YOU HAVE TO CALL THE AMBULANCE? ☐ YES ☐ NO

NAME OF AMBULANCE COMPANY:

AMBULANCE VEHICLE NUMBER (if any):

DID AMBULANCE TRANSPORT VICTIM? ☐ YES ☐ NO

EMC WAS NOT CALLED

EMC was not called for the following reason: (Check one)

- ☐ ALL EMCs' PHONES WERE BUSY
☐ LINE BUSY — OTHER EMCs NOT AVAILABLE
☐ LINE BUSY — OTHER EMCs NOT CALLED
☐ CALLER UNAWARE OF EMC PROGRAM
☐ CALLER DIDN'T KNOW NUMBER(s)
☐ CALLER DIDN'T THINK TO CALL EMCs
☐ NO PHONE AVAILABLE
☐ NO ONE TO CALL FOR THE VICTIM
☐ CALLER DIDN'T THINK IT WAS SERIOUS
☐ OTHER (specify)

VITAL SIGNS

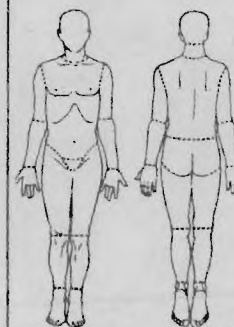
- BREATHING
☐ ABSENT
☐ ABNORMAL/DIFFICULT
- PULSE
☐ ABSENT
☐ ABNORMAL
- CONSCIOUSNESS
☐ SEMI-CONSCIOUS
☐ UNCONSCIOUS
- BLEEDING
☐ MINOR TO MODERATE
☐ SEVERE
☐ UNCONTROLLABLE
- SKIN COLOR
☐ PALE/BLUSH
☐ FLUSHED/RED

PULSE:

BP:

INJURY LOCATION

for broken bones, MARK X
for bleeding, CIRCLE O
for burns, CROSSHATCH #



7

8

PATIENT CONDITION

(check one or more)

- ☐ BITES AND STINGS
☐ BURNS (CHEMICAL)
☐ BURNS (THERMAL)
☐ CHEST PAIN
☐ DISLOCATIONS
☐ DIZZINESS/FAINTING
☐ DROWNING
☐ DRUG OVERDOSE
☐ EMERGENCY
CHILD BIRTH
☐ SEIZURES
☐ CONVULSIONS
☐ FRACTURES
☐ HEAT EXHAUSTION
☐ HEAT STROKE
☐ IMPALED OBJECTS
☐ MENTAL PROBLEMS
☐ NAUSEA/VOMITING
☐ PAIN
☐ POISONING (BY MOUTH)
☐ PUNCTURE WOUNDS
(KNIFE OR SHOT)
☐ SMOCK
☐ STROKE
☐ OTHER (NAME)

9

FIRST AID PERFORMED BY YOU (check one or more)

- ☐ AIRWAY (MAINTAIN)
☐ APPLY COMPRESS/
BANDAGE
ARTIFICIAL RESPIRATION
☐ MOUTH-TO-MOUTH
(NOSE)
☐ OTHER (LIST)
- ☐ CALM AND REASSURE
☐ CHECK FOR BREATHING
☐ CHECK FOR PULSE
☐ CLEAN WOUND

- CONTROL BLEEDING
☐ DIRECT PRESSURE
☐ DIGITAL PRESSURE
☐ ELEVATION
☐ CPR
☐ DILUTE POISON
WITH
☐ ELEVATE FEET
☐ ELEVATE HEAD
☐ EXTRICATE VICTIM
☐ FLUSH WITH WATER
☐ FLUIDS BY MOUTH
☐ IMMOBILIZE IMPALED
OBJECT
☐ IMMOBILIZE INJURY
☐ INDUCE VOMITING

- ☐ LOOSE CLOTHING
☐ LOWER BODY
TEMPERATURE
☐ MONITOR PULSE AND
RESPIRATION
☐ KEEP VICTIM WARM
☐ REMOVE CONTAMINATED
CLOTHING
☐ POSITION VICTIM FOR
COMFORT
☐ RESTRAIN VICTIM
☐ SPLINT FRACTURE/
DISLOCATION
☐ STRAIGHTEN FRACTURE
☐ OTHER (NAME)

10

Write brief description of event

ALL INFORMATION WILL REMAIN CONFIDENTIAL.
PLEASE DO NOT COPY THIS FORM.

RETURN TO: DR. JUSTIN A. MYRICK
SCHOOL OF HEALTH SYSTEMS
GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA



APPENDIX F
FAPI CALCULATION

A critical component of any project is an evaluation of its impact. This study has been designed to assess the most efficient approach to identifying effective volunteers, to measure the appropriateness of volunteer training, to assess the response to emergency incidents, and to measure changes in awareness by community residents of how to use the emergency care system. This appendix will discuss the assessment of response to emergency incidents. In the evaluation of EMC response to emergencies and subsequent performance of the EMC on the scene, an incident report form was developed to collect data necessary to make these determinations, as was described in Chapter IV. The form was self-administered and was completed by the EMC on the occasion of each emergency call. Items recorded include response time, type and severity of the illness or injury, and specific actions taken by the EMC. Completed forms were mailed to project staff for tabulation and analysis.

There are many alternative approaches to measuring the performance of an EMC. The two extremes are (1) first aid performance inferred from an EMC's knowledge of first aid through the mechanism of an exam, and (2) actual performance demonstrated in terms of the effect of EMC intervention upon the ultimate outcome of the patient. While the first alternative makes the supposition that knowledge (as measured by an exam) will produce good performance, the second alternative is dependent upon separating out the effects of the various components of the emergency care system. This separation has not yet been accomplished in EMS research nor has a good set of outcome measures been developed. It was therefore determined that a process measure would be utilized to determine individual EMC performance.

The training program was structured such that a specific patient condition was described and the various attributes regarding recognition of that condition were discussed. Based upon the particular condition, a task or set of tasks which would stabilize that condition was described and subsequently practiced by the EMC. The approach to the development of a performance measure was then based upon the completion of a task or set of tasks for a given condition of the patient. A simple performance measure might then be the completion of a certain percentage of tasks which were required for a specific condition. It was, however, recognized that some tasks in a group of tasks are more important than others. The concept of task weighting was then determined to be important in developing

a task performance measure. Other issues of interest included the possible importance of task sequence and the quality of the task performance. Task sequence did not appear to be important for most conditions since the sequence appeared to be obvious in most cases. Information regarding the quality of the performance was certainly desirable; however, unless a trained observer with clinical experience was accompanying each EMC on every emergency call, it was otherwise impossible to determine how well tasks were performed in the field with any consistency.

Multiple conditions were also recognized as important in developing a performance measure. As is the case of multiple tasks, certain conditions represent more critical situations to patient survival than others; therefore, the conditions were also weighted in order to assign a higher performance score to the treatment of the more critical conditions of a patient with multiple conditions.

The approach to task performance was therefore the identification of a group of tasks which were to be performed by the EMC based upon the specific conditions of the patient. This condition and task identification was based upon an analysis of the training program. The approach to performance then was not, "Did the EMC do the correct thing?" but "Did the EMC do as he was trained to do?"

Development of the Performance Measure

The training program developed for the EMCs was identical to the police training program in a previous research study funded through Grant HS 01767. The EMC training program even used the same instructor that the police used. Therefore, based upon the same first-responder role shared by the EMCs and the police as well as the identical training experience, the project staff chose to modify the first aid performance measure used in the police study for use in the EMC program. The performance measure as developed for the police project will be briefly described and the uses of this measure in evaluating EMC performance will be discussed.

A seven-member panel of experts in pre-hospital emergency care was assembled to develop condition and task weights for use in the performance index. This panel included the instructor for the first aid course taught to the police and the EMCs. As noted earlier, the project staff developed a list of specific conditions and specific tasks associated with those

conditions based upon an analysis of the training program. Four staff members took the training with the police officers and the notes and course materials of the staff were used to develop these conditions and tasks. A total of 24 specific conditions were presented during the training program. When analyzing the tasks which relate to the specific conditions, the decision was made to develop procedure sets containing interrelated tasks due to the interdependency and similarity of some of the tasks. For example, the condition "absent breathing" calls for three procedure sets to be performed. One of these procedure sets includes the following tasks: (1) establish airway, (2) maintain airway, and (3) give artificial respiration. The intuitive appeal of this grouping is evident since the same type of patient condition in two different instances may warrant varying degrees of performance of the corresponding procedure set. For example, establishing the airway for won victim with "absent breathing" may be sufficient to restore breathing; whereas, for another victim, artificial respiration may also be required. A total of 26 procedure sets was developed for subsequent weighting.

The panel was convened on three separate occasions to consider the weighting of conditions and procedure sets. The panel members were asked to assess the relative importance of procedure sets for specific conditions by assigning ratings for these sets on the basis of a zero-to-one hundred (0-100) scale. The panel sessions were structured by using the modified nominal group process to elicit responses from panel members. The session consisted of a silent generation phase in which the panelists were requested to make a numerical assessment of the relative importance of individual procedure sets for each patient condition. The panel members next stated their ratings, giving verbal justifications of those ratings in a round-robin fashion and without interruption from other panelists. Following feedback and display of numerical ratings, including the highlighting of the median and range of scores, a brief discussion period was allowed. This was then followed by the second silent rating followed by statement of ratings and discussion as noted above. Additional rounds were conducted as necessary until a consensus was reached. The weights for the 26 procedure sets based upon the 24 conditions are included in Table F-1.

Following the ratings of procedure sets for each of the 24 conditions, the panel was asked to assign each of the 24 conditions to one of four

Table F-1
FIRST AID TASK WEIGHTS

CONDITION PROCEDURE SET																								
	Absent Breathing	Abnormal or Difficult Breathing	Abnormal Pulse	Absent Pulse	Chest Pain	Dislocations	Fractures	Shock	Bleeding (Minor to Severe)	Bleeding (Severe)	Bleeding (Uncontrollable)	Impaled Object	Unconsciousness	Dizziness or Fainting	Epileptic Seizure	Heat Stroke	High-Temperature (Convulsions)	Stroke	Burns (Chemical)	Burns (Thermal)	Poisoning	Bites and Stings	Heat Exhaustion	Emergency Childbirth
Establish airway Maintain airway Artificial respiration	100	100	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	100	*	*	*	*	*	*
Check breathing Establish airway Maintain airway Artific. respiration	*	*	*	*	*	*	*	*	*	*	*	*	100	*	*	*	*	*	*	*	*	*	*	*
CPR	*	*	*	100	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Monitor pulse and respiration	93	99	100	*	100	*	*	100	99	100	100	*	98	100	98	100	100	100	100	100	100	100	100	99
Check pulse	98	*	*	*	*	*	*	*	*	*	*	*	100	*	*	*	*	*	*	*	*	*	*	*
Position victim for comfort Loosen clothing	*	92	82	*	91	96	92	94	89	93	80	98	*	99	99	94	90	90	81	89	90	89	89	98

Table F-1(Cont'd)
FIRST AID TASK WEIGHTS

CONDITION PROCEDURE SET																								
	Absent Breathing	Abnormal or Difficult Breathing	Abnormal Pulse	Absent Pulse	Chest Pain	Dislocations	Fractures	Shock	Bleeding (Minor to Severe)	Bleeding (Severe)	Bleeding (Uncontrollable)	Impaled Object	Unconsciousness	Dizziness or Fainting	Epileptic Seizure	Heat Stroke	High Temperature (Convulsions)	Stroke	Burns (Chemical)	Burns (Thermal)	Poisoning	Bites and Stings	Heat Exhaustion	Emergency Childbirth
Calm and reassure victim	*	*	99	*	*	*	*	*	*	*	*	*	*	100	99	98	100	100	*	*	*	*	100	100
Calm and reassure victim Restrict movement	*	98	*	*	100	96	100	100	*	*	*	100	*	*	*	*	*	*	100	100	99	*	*	*
Calm and reassure victim Restrict movement Immobilize injury	*	*	*	*	*	*	*	*	100	99	96	*	*	*	*	*	*	*	*	*	*	100	*	*
Apply splint Immobilize injury	*	*	*	*	*	98	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Apply splint Straighten fracture Immobilize injury	*	*	*	*	*	*	100	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Elevate feet	*	*	*	*	*	*	*	97	*	*	*	*	*	54	*	*	*	*	*	*	*	*	3	*

Table F-1 (Cont'd)
FIRST AID TASK WEIGHTS

[illegible]

PROCEDURE SET	CONDITION																									
	Absent Breathing	Abnormal or Difficult Breathing	Abnormal Pulse	Absent Pulse	Chest Pain	Dislocations	Fractures	Shock	Bleeding (Minor to Severe)	Bleeding (Severe)	Bleeding (Uncontrollable)	Impaled Object	Unconsciousness	Dizziness or Fainting	Epileptic Seizure	Heat Stroke	High Temperature (Convulsions)	Stroke	Burns (Chemical)	Burns (Thermal)	Poisoning	Bites and Stings	Heat Exhaustion	Emergency Childbirth		
Apply compress/ bandage	*	*	*	*	*	*	*	*	94	99	98	*	*	*	*	*	*	*	*	*	*	*	*	*		
Clean wound	*	*	*	*	*	*	*	*	0	0	0	*	*	*	*	*	*	*	*	0	*	0	*	*		
Immobilize impaled object Immobilize injury	*	*	*	*	*	*	*	*	*	*	*	100	*	*	*	*	*	*	*	*	*	*	*	*		
Remove contaminated clothing	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	78	*	*	*	*	*		
Flush with water	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	100	*	*	*	*	*		
Burn sheet	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	78	100	*	*	*	*		

Table F-1 (Cont'd)
FIRST AID TASK WEIGHTS

PROCEDURE SET	CONDITION	
	Absent Breathing	Abnormal or Difficult Breathing
Dilute poisoning Induce vomiting	*	*
	*	*
Assist with delivery	*	*
	*	*
	</	

*Not considered for this condition.

priority categories. These categories were as follows: (1) those conditions which will cause death or permanent disability if not treated within four to six minutes, (2) those which may cause death or disability within that time period, (3) those which seldom cause death or disability within that time period, and (4) those which never cause death or disability within that time period. Further definition and elaboration of these categories were provided through interactions of the staff and panel, as described in Table F-2. The panel then assigned the 24 conditions to one of the four categories. Again, the modified nominal group process was employed.

Table F-2
CONDITION CATEGORIES

Category	Definition
I	First (and highest) priority. Injuries in this category <i>will</i> cause death or permanent disability if not treated within four to six minutes. In cases of multiple injuries, injuries in this category should be treated before any injuries in any other category. (A person with one or more Category I conditions could be considered to be in <i>critical</i> condition.)
II	Second priority. Injuries in this category <i>may</i> cause death or permanent disability if not treated within four to six minutes. However, in cases of multiple injuries, Category I injuries <i>must</i> be treated before injuries in this category, in multiple injury situations. (A person with one or more Category II conditions could be considered to be in <i>serious</i> condition.)
III	Third priority. Injuries in this category <i>seldom</i> cause death or permanent disability if not treated within four to six minutes. In cases of multiple injuries, Category I and Category II conditions <i>must</i> be treated before injuries in this category. (A person with one or more Category III conditions could be considered to be in <i>guarded</i> condition.)
IV	Fourth (and lowest) priority. Injuries in this category <i>never</i> cause death or permanent disability unless aggravated by a higher-level condition. All conditions in any other category should be treated before any Category IV conditions. A person with one or more Category IV conditions could be considered to be in <i>reasonably stable</i> condition.)

Following the assignment of conditions to the four categories, the panel was asked to numerically weight the four categories using the same group process procedures. These weights are included in Table F-3. This concluded the development of all the information necessary in the construction of the index.

Table F-3
CATEGORIZATION OF CONDITIONS

CATEGORY	CONDITIONS	WEIGHT
I	Absent breathing Absent pulse Bleeding--uncontrollable Poisoning Puncture wounds--head and torso Shock	100
II	Abnormal/difficult breathing Abnormal pulse Bleeding--severe Burns--chemical (eye) Burns--chemical (other areas) Burns--thermal (3rd degree, greater than 15%) Chest pain Heat stroke Impaled objects--head and torso Unconsciousness	90
III	Bites and stings Burns--thermal (2nd degree, greater than 15%) Burns--thermal (3rd degree, less than 15%) Dislocations Emergency childbirth Epileptic seizures Fractures (back, neck) Fractures (other areas) High temperature convulsions Impaled objects--extremities Puncture wounds--extremities Semi-consciousness Stroke	75
IV	Bleeding--minor/moderate Burns--thermal (1st degree, any extent) Burns--thermal (2nd degree, less than 15%) Dizziness/fainting Heat exhaustion Nausea/vomiting	28

Construction of the Index

The performance index for each incident is calculated by taking the sum of weighted procedure sets performed divided by the sum of weighted procedure sets required for each condition. There is one term for each patient condition specified and the index then is developed by weighting each of these terms by the specific condition weights. In practice, this is accomplished by a computer program which looks up the procedure sets required with associated weights. With the procedure sets performed by the EMC used as input, the program can calculate the index based upon the specific conditions of the patient.

An Example of the Calculation

Given weights for the procedure sets and condition categories, the FAPI can be calculated. To illustrate this calculation procedure, consider a situation in which a victim is involved in an automobile accident. As a result of the accident, the victim sustains an injury to his forearm, causing severe bleeding. In addition, it is thought that the victim may have a fractured fibula. The EMC arrives on the scene of the accident two minutes after receiving a call for assistance. The EMC elevates the victim's arm and applies a compress to the wound in an attempt to control the bleeding. He also calms the victim and tries to make him as comfortable as possible. Before the EMC has time to perform additional first aid tasks, an ambulance arrives and assumes responsibility for the victim. The FAPI for this particular incident would be calculated as follows:

1. Identify conditions present. Obtain appropriate condition category weights from Table F-3.

<u>Condition</u>	<u>Category</u>	<u>Weight</u>
Fractured fibula	III	75.0
Severe bleeding	II	90.0

2. For each condition present (fracture and severe bleeding), identify tasks required and the associated task weights from Table F-1. Compare tasks performed to tasks required as shown in Table F-4.
3. Insert the weights obtained in steps 1 and 2 into the following equation.

$$FAP1 = \frac{n}{\sum_{i=1}^n [(condition\ weight\ i) (\sum_{j=1}^m \frac{no.\ of\ procedures\ performed}{no.\ of\ procedures\ required} \cdot \frac{procedure\ weight\ j}{\sum_{j=1}^m procedure\ weight\ j})]} \\ = \frac{75.0/75.0+90.0}{[(92.0+100.0)/92.0+100.0+99.6]} + \frac{90.0/75.0+90.0}{[(100.0+99.0+93.2+99.0)/(100.0+99.0+100.0+93.2+99.0)]} \\ = .73$$

It should be noted that these calculations are performed by computer program and are not performed manually.

Table F-4
TASKS PERFORMED VERSUS TASKS REQUIRED

Condition	Tasks Required	Weight	Tasks Performed
Fracture	a. Position victim for comfort and/or loosen clothing.	92.0	Position victim for comfort.
	b. Calm and reassure and/or restrict movement.	100.0	Calm and reassure.
	c. Apply splint and/or straighten fracture and/or immobilize.	99.6	
Bleeding-- Severe	a. Control bleeding.	100.0	Direct pressure, elevation.
	b. Apply compress/bandage.	99.0	Apply compress.
	c. Monitor pulse and respiration.	100.0	
	d. Position victim for comfort and/or loosen clothing.	93.2	Position victim for comfort.
	e. Calm and reassure and/or restrict movement and/or immobilize.	99.0	Calm and reassure.

- Insert the weights obtained in steps 1 and 2 into the following equation.

For the preceding example, the FAPI equals 0.73. In and unto itself, this score has little meaning beyond the fact that the "treatment objective" (as implicitly defined by the panel in the weighting process) has been 73 percent achieved; or, from another viewpoint, a score of greater than 0.73 indicates that the treatment objective has been achieved to a greater extent than would a score of less than 0.73. However, the FAPI gains additional meaning when analyzed with respect to other key performance and attitudinal variables as is described in Chapter IV.

APPENDIX G
EMC LEGAL OPINION

EVALUATION OF PROPOSED EMERGENCY MEDICAL COORDINATOR (EMC)

FOR USE IN PRIMARILY RURAL OR ISOLATED COMMUNITIES IN THE CAPACITIES AS A FIRST RESPONDER TO EMERGENCIES, EITHER MEDICAL OR TRAUMATIC.

(EMC Staff Note: This represents a legal opinion prepared for the research grant by Judge Arthur M. Kaplan of Atlanta. Judge Kaplan has extensive experience in the EMS field as an instructor as well as his legal background as a practicing attorney and Judge.)

Rationale. Since response time from appropriate services pursuant to an emergency, whether same be from medical or traumatic sources, so frequently are inadequate and by virtue thereof immediate assistance cannot be obtained for the victims within the critical minutes subsequent to its occurrence. By virtue of this, the EMC concept is being assessed as to the feasibility of having trained volunteers in communities and areas where adequate first responder programs are not available.

Volunteers. This program will be primarily staffed by volunteers who have received special training and command the highest of respect in their communities, (i.e., school teachers, football coaches, ministers, and other civic minded individuals).

Effect on Volunteer. The question having been raised that a volunteer that is trained and his phone number is published on a sticker advertising his capable response whether it be EMT or otherwise, what extent is his legal status by virtue of holding his services out to the public in the form of advertising?

Response. I see no problem with this particular phase of the EMC Program. For many years the National American Red Cross maintained mobile units and Emergency First Aid stations in fire houses, police departments and other facilities where people who were in need of help could respond to this location for assistance. The mobile units were private citizens who must be qualified under Red Cross procedures to obtain membership in the Mobile Unit Squads. These individuals signed an agreement that they would maintain their vehicles with certain types of equipment, upgrade their training periodically and participate in

the various Chapter functions pertaining to their program. This worked very well for numerous years and in some parts of the country, it is still a very viable force as are the numerous Rescue Squads that exists throughout the United States and especially in the Northeastern part of the country such as the Chevy Chase, Maryland Rescue Squads.

In that this program will be implemented by volunteers, I see no reason that the Good Samaritan act would not be applicable to these volunteers. Georgia Code Section 84-930 - Relief of civil liability of practitioners rendering emergency care. "Any person, including those licensed to practice medicine and surgery pursuant to the provisions of this Chapter, and including any person licensed to render service ancillary thereto, who in good faith renders emergency care at the scene of an accident or emergency to the victim or victims thereof without making any charge therefor, shall not be liable for any civil damages as a result of any act or omission by such person in rendering the emergency care or as a result of any act or failure to act to provide or arrange for further medical treatment or care for the injured person."

Effect. It should be brought out in all candor that while this may be a good viable defense in some instances, it does not preclude the individual from being sued. It might preclude an award of damages or act as affirmative defense, but it does not limit another person's right to institute an action in tort against one who might have rendered care in an emergency situation whereby another received or sustained injuries and damages as a result of the acts of the alleged tort feisor. I note further in this section, the following words subsequent to the word "including"....."any person licensed to render service ancillary thereto, ".

The Code Section is silent as to the meaning of what persons who are licensed and the ancillary service referred to therein. In absence of case law, or specific statute, I believe that it would be necessary to obtain an interpretation from the Attorney General as to the meaning of these words. Further, the Act makes reference to any persons who render the aid in "good faith". Certainly, "good faith" would preclude a malicious act. It does not, however, define the intent of the legislature.

As to the meaning of "in good faith". I would suspect that this means the individual acted as a reasonable, prudent person would respond under similar circumstances and within their scope of training and knowledge. There is little doubt in my mind that it would exclude the theory that the individual knew or should have known that his act towards another might indeed precipitate or cause additional injury to the victim.

Senate Bill #99. With reference to a question having been raised pertaining to Senate Bill #99, that anyone "doing EMT work" regardless of whether he is paid or not must be an EMT. I do not recall seeing this section in the Act and I do not believe that it would be effective since so many of other types of First Aid programs are synonymous with the EMT philosophies that I do not feel as though this type of law would within and of itself exclude all others except EMTs. The EMC would not necessarily be or purport or hold himself out as an EMT.

Criminal Charges. One of the very important matters that the EMC must take into consideration would certainly be that of potential criminal charges that might arise from participation in the EMC program. The first that comes to mind would be that of responding to a potential victim in violating of the traffic laws of the City or State. Though an operator of an emergency vehicle is given certain privileges and latitudes, it does not preclude him from exercising ordinary care and diligence. Georgia Code 68A-107 - Authorized emergency vehicles.

"(A) The driver of an authorized emergency vehicle, when responding to an emergency call or when in the pursuit of an actual or suspected violator of the law or when responding to but not upon returning from a fire alarm, may exercise the privileges set forth in this section.

"(B) The driver of an authorized emergency vehicle may:

- (1) Park or stand, irrespective of the provisions of this Title;
- (2) Proceed past a red or stop signal or stop sign, but only after slowing down as may be necessary for safe operation;
- (3) Exceed the maximum speed limits so long as he does not endanger life or property;

(4) Disregard regulations governing direction of movement or turning in specified directions.

"(C) The exemptions herein granted to an authorized emergency vehicle shall apply only when such vehicle is making use of an audible signal meeting the requirements of section 68-1716(d), and use of a flashing or revolving red light visible under normal atmospheric conditions from a distance of 500 feet to the front of such vehicle, except that a vehicle belonging to a Federal, State or local law enforcement agency and operated as such shall be making use of a flashing or revolving blue light with the same visibility to the front of the vehicle.

"(D) The foregoing provisions shall not relieve the driver or an authorized emergency vehicle from the duty to drive with due regard for the safety of all persons.

"(E) It shall be unlawful for any person to operate an authorized emergency vehicle with flashing lights other than as authorized by subsection (c) or by section 68-416 allowing the Department of Public Safety to issue permits for the use of flashing or revolving amber lights."

It is noted in Section (c) of 68A-107 of the Georgia Code Annotated that Code Section 68-1716(d) is referred to and made a part of the pre-requisites for such authorization, privileges and immunities;

"68-1716 Horns and warning devices.

"(A) Every motor vehicle when operated upon a highway shall be equipped with a horn in good working order and capable of emitting sound audible under normal conditions from a distance of not less than 200 feet, but no horn or other warning device shall emit an unreasonably loud or harsh sound or a whistle. The driver of a motor vehicle shall when reasonably necessary to insure safe operation give audible warning with his horn but shall not otherwise use such horn when upon a highway.

"(B) No vehicle shall be equipped with nor shall any person use upon a vehicle any siren, whistle, or bell, except as otherwise permitted in this section.

"(C) It is permissible but not required that any commercial vehicle be equipped with a theft alarm signal device which is so arranged that it cannot be used by the driver as an ordinary warning signal.

"(D) Any authorized emergency vehicle may be equipped with a siren, whistle, or bell, capable of emitting sound audible under normal conditions from a distance of not less than 500 feet and of a type approved by the department, but such siren shall not be used except when such vehicle shall sound said siren when necessary to or in the immediate pursuit of an actual or suspected violator of the law, in which said latter events the driver of such vehicle shall sound said siren when necessary to warn pedestrians and other drivers of the approach thereof."

Information, Privileged Disclosure of. Another problem that the EMC might encounter is the divulging of information communicated to him by the patient without the express permission of the patient, and would the EMC be authorized to convey the information received to some third party?

Rationale. "Since the EMC was called by the victim for emergency assistance and the EMC not possessing the authority to advise the patient that medical assistance is not necessary or to dissuade in any way the victim from obtaining medical assistance. It is my opinion that the EMC may communicate the facts and information pertaining to the victim's particular illness or injury to such persons in the emergency medical fields who are charged with or responsible for the subsequent care, treatment, the well-being, interest and health of the victim, in absence of a direct and specific request by the victim to the EMC not to divulge same.

Privileged Communications, Libel Slander, Etc. All of the many pitfalls the EMC conceivably could be faced with would be that of divulging confidential or privileged information pertaining to the victim or patient: As is stated in Berry v. Moench, Utah Supreme Court and cited in 73 ALR 2nd, page 315 and quoting from page 316, section 24(3):

"Subject to the conditional privilege to make such disclosure as is reasonably necessary to protect a sufficiently important interest, it is obligatory upon a doctor not to reveal information obtained in

confidence in connection with the diagnosis or treatment of his patient, and if a doctor violates that confidence and publishes derogatory matter concerning his patient, an action lies for any injuries suffered."

Criminal Actions, Possibility Thereof. "Another problem that the EMC might be confronted with, especially, if working by themselves, would be the possibility of accusations pertaining to impropriety that might exist in the victim's mind. So frequently in the past has there been actions instituted against physicians and especially against Dentists, who, when the inception of the use of nitros oxide gas, were accused by patients of being molested. The use of nitros oxide evidently produced such feelings in females that as a result thereof it is a standard practice amongst physicians, dentists and other medical or para-medical professionals for two people to constantly be in the room with the patient during any course of examination or treatment where members of the opposite sex are involved. The most common charge instituted was that of simple battery which is defined in Code Section 26-1304 of the Code of Georgia Annotated and I quote therefrom:

"26-1304 Simple Battery. A person commits simple battery when he either (a) intentionally makes physical contact of an insulting or provoking nature with the person of another or (b) intentionally causes physical harm to another. A person convicted of simple battery shall be punished as for a misdemeanor."

Miscellaneous Problems. Another distinct problem the EMC might be confronted with would be the arrival at the scene before the local authorities where the victim or others are either drunk, on drugs or potential violence exists. In a situation of this type, the EMC would be placed in a very compromising and dangerous position since the immediate care for a victim might be necessary and by the same token, the EMC could be placed in considerable jeopardy. Since the philosophy of this program is to be in the rural areas where immediate care is not available, this would indeed be in my judgment a very severe problem to consider before this program is implemented. So many times are there irate people at the scenes who are armed and quite dangerous.

Allied Field Authorities. In searching the Georgia Law that might have relative bearing on the limitations or pertaining to restrictions

to volunteers administering aid, the closest analogy to the EMC or the Emergency Medical Technician would be the licensed Practical Nurse: The LPN under Title 84-6807 is defined as follows: "A practical nurse is a person who has had study and supervised experience in an approved school and hospital training program and is thereby trained to care for sub-acute, convalescent and chronic patients in their own homes or in institutions, or who works under the direction of a licensed physician or registered professional nurse. Any hospital with 15 beds or more may qualify to train practical nurses provided they do not train over one nurse per year for every eight hospital beds....."

Under Code Section 84-6807 Practice of licensed practical nursing defined. (Acts 1977, pp. 1204 (8)) "Practice of licensed practical nursing means the performance for compensation, under the supervision of physician practicing medicine in accordance with the provisions of law or a nurse practicing nursing as a registered professional nurse in accordance with the provisions of law, or health care services of the following types the performance of which requires the formal educational preparation necessary to qualify for the examination for licensure as a licensed practical nurse:

- (1) Providing personal patient observation, care and assistance;
- (2) Performing comfort and safety measures;
- (3) Utilizing aseptic techniques;
- (4) Administering treatments and medications;
- (5) Collecting and caring for specimens;
- (6) Caring for the newborn infant;
- (7) Using oral and written communications in health care and health records;
- (8) Performing certain specialized tasks, when appropriately trained, including supervising licensed practical nurses and other personnel, performing special obstetrical services and performing health care services in cardiac units, emergency rooms, operating rooms and intensive care units; and
- (9) Similar health care services."

Author's Note: In construing section (8) and (9) of the Act referred to above, it does not state what the appropriate training of

the specialized task would be and what the special obstetrical services, etc. authorizing them to or not to do. Under Section (9) thereof, similar health care services, in my judgment cannot be determined and is so overly broad and extensive that it could apply to almost anything.

In Section (12) of the 1977 Act, pp. 1207, it reads as follows:

"84-6811 Persons exempt from operation of law. The provisions of this Chapter shall not apply to persons authorized by law to perform tasks included in the practice of licensed practical nursing when performing such tasks nor shall it prohibit gratuitous nursing or nursing or care of the sick with or without compensation when done in connection with the practice of the religious tenets of any church or religious group so long as the person engaging therein does not hold himself or herself out to be a licensed practical nurse. The provisions of this Act shall not prohibit an orderly, attendant, aide, or maid from engaging in work or performing tasks customarily performed by such persons."

Disasters and Civil Defense Provisions. The public defense act which is Title 86 of the Georgia Code makes certain provisions for Rescue organizations. Georgia Laws, 1976, pp. 1590 (House Bill 163) which modifies Title 86-1828, pp. 74, 94; 1974, pp. 558, 559; 1976, pp. 1590, under Section 27 (a) of said House Bill 163, setting forth as follows: "(a) Except as otherwise provided by subsection (b) hereof, all non-governmental rescue organizations, associations, groups, teams or individuals, whether or not they are holders of a charter issued by the State of Georgia or officers thereof, shall be prohibited from performing any rescue or civil defense type activity until such organization, association, group, team or individual has been licensed by the State Director of Civil Defense to perform said activities. It is expressly declared to be the intent of this Act to in no way amend, repeal, alter or affect in any manner the provisions of an Act relieving any person who renders emergency care at the scene of an emergency from civil liability when such care or services are rendered without charge and in good faith, approved March 3, 1962 (GA. L. 1962, p. 534)

"(b) Any marine rescue squadron sponsored by the sheriff of the superior court of the county of residence of said squadron and chartered as a Marine Rescue Squadron of America which has been so chartered since January 1, 1960, or prior to that date, and which performs water or boat safety rescue missions within the State of Georgia shall be deemed to be a governmental rescue organization within the meaning of subsection (a) hereof and need not be licensed by the State Director of Civil Defense as provided by said subsection.

"Section 2. All laws and parts of laws in conflict with this Act are hereby repealed.

"Approved April 7, 1976."

It is difficult to determine what, if any, effect this Act might have upon an EMC in a rural community. To prevent any difficulties and to comply with all laws, my recommendation would be that each EMC would contact the Civil Defense office for proper certification and authorization. My understanding of this law pertains only in the event of a disaster, however, if indeed a disaster arose within the community, then the EMC might very well be the only person available for a great length of time to render necessary care prior to the arrival of additional medical or rescue assistance. To obtain this certification would not only preclude any violation of the law, but also give additional credibility to the competency of the individual EMC.

Certainly the EMC could not be considered to maintain or by inference share the privileges the relationship that a Doctor/Patient might have, however, the EMC must constantly be aware not to repeat or in any other way convey information, opinions, or other mediums in which inferences could be drawn by third parties as to the conditions or problems of the victim.

It is a general matter of knowledge that in small towns or communities everybody knows what the other is doing. This could be a very touchy and dangerous problem for the EMC due to the "inquisitiveness" of others within the community.

The EMC in addition should not make any unauthorized verbal statements wherever practical should have written consents

authorizing the EMC to convey whatever facts or information he has obtained from the victim to other medical authorities including ambulance or paramedical personnel. Though, this in my judgment, would not be absolutely necessary, it would be desirous as an additional means of the EMC protecting himself. This might best be accomplished by a preregistration of all potential people within the community that would be desirous in participating in the EMC concept whereby the EMC would have certain general information at his disposal given to him by the victim and non-revocable authorization for the EMC to convey the desired information to medical authorities whenever emergency care is administered to the victim for any purpose whatsoever. Certainly the irrevocable authority to reveal information could be terminated or revoked, by the patient or victim during any time preceding being called on for assistance by the victim so long as it is done in writing and sent by certified mail and return receipt has been obtained. Verbal termination of the irrevocable authority would not be acceptable nor permitted for obvious reasons.

Another problem that might develop for the EMC is the administering of care without consent of the victim. Under Title 88-2907, Right of adult to refuse treatment as to his own person not abridged. - "Nothing contained herein shall be construed to abridge any right of a person 18 years of age or over to refuse to consent to medical or surgical treatment as to his own person."

Under Section 88-2904 of the Georgia Code Annotated. "Persons who may consent to surgical or medical treatment. - In addition to such other persons as may be authorized and empowered, any one of the following persons is authorized and empowered to consent, either orally or otherwise, to any surgical or medical treatment or procedures not prohibited by law which may be suggested, recommended, prescribed or directed by a duly licensed physician:

"(a) Any adult, for himself;

"(b) Any parent, whether an adult or a minor, for his minor child;

"(c) Any married persons, whether an adult or a minor, for himself, and for his spouse;

"(d) Any person temporarily standing in loco parentis whether formally serving or not for the minor under his care and any guardian, for his ward;

"(e) Any minor 18 years of age or over, for himself;

"(f) Any female regardless of age or marital status, for herself when given in connection with pregnancy or childbirth;

"(g) In the absence of a parent, any adult, for his minor brother or sister;

"(h) In the absence of a parent, any grandparent for his minor grandchild."

Emergencies. 88-2905. - "In addition to any other instances in which a consent is excused or implied as law, a consent to surgical or medical treatment or procedures, suggested, recommended, prescribed or directed by a duly licensed physician, will be implied where an emergency exists. For the purposes hereof, an emergency is defined as a situation wherein, (a) in competent medical judgment, the proposed surgical or medical treatment or procedures are reasonably necessary, and (b) a person authorized to consent under Section 88-2901 is not readily available and any delay in treatment could reasonably be expected to jeopardize the life or health of the person affected or could reasonably result in disfigurement or impair facilities."

The question arises....Does the EMC have the same privileges and restraints as does the physician. In most instances, the EMC would respond at the call of the victim himself. This would not always necessarily be the case. If in the event the EMC responded at the call of a relative, guardian or other person authorized under Section 88-2904, subsections (b), (c), (d), (f), (g) and (h) above, would there be adequate protection for the EMC to preclude criminal and/or civil action?

In my judgment, from a legal viewpoint, I do not believe that the EMC would have the adequate protection to care for others without their express consent, and to do so might indeed involve severe repercussions from the victim to the EMC as far as legal ramifications are concerned; however, from a practical standpoint if a person's life is hanging in jeopardy and by virtue of the EMC's ability to stabilize that life or prevent further injury or disfigurement, I find it very difficult to

comprehend that one could institute and successfully maintain an action in either civil or criminal against the EMC for preserving his/her life. This would certainly be applicable in a criminal offense where one of the necessary elements would be that of "intent" which I do not believe could be inferred under these facts. This is being brought out however, since the EMC concept is embryotic and the alternatives should be taken into consideration in the development of the program.

Responsibility to Act. If the EMC program is implemented and certain persons in the rural communities accept the responsibilities to respond and aid when called upon, how will this affect the EMC if he should elect not to respond? This indeed, would be a very serious and involved problem. "A person who has agreed to be responsible for the care of another must aid that person when he is in danger, i.e., a ship's captain must aid his passenger United States vs. Knowles, 26 F.CAS 800.

Constant Availability of the EMC And/Or Alternate. Another distinct problem that could arise in my judgment is that if the EMC advertises that he is available to render assistance and the public becomes reliant thereupon, what if any, specific or implied duties prevail for the EMC? If the EMC chooses to leave the community for whatever reason, would it be mandatory for him to obtain a substitute in his place? This we cannot determine since I know of no statutes or case laws apertaining thereto. However, if a physician lives in the community and has patients therein of whom are under his constant care, I feel as though there would be a very definite duty of the physician to provide an alternate. Again, we are talking here of physician/patient relationship rather than a volunteer who certain individuals might become dependant on. Much of this would be determined by the various degrees of response the EMC would be willing to accept, however, notwithstanding this, we do have at least an implied principle of reliance.

Abandonment. (Definition) In general, abandonment may be defined as the termination by the physician of the doctor/patient relationship without the consent of the patient and without giving the patient adequate notice and opportunity to find another physician. In order

for a claim of abandonment to be successful, several elements must be present:

- (1) There must have been a physician/patient relationship to begin with;
- (2) The relationship must be terminated by the physician without the mutual consent of both parties;
- (3) The physician must have unilaterally terminated the relationship without giving the patient adequate time to secure the services of another physician;
- (4) There must have been a continuing need by the patient for further medical treatment;
- (5) The abandonment must have been the cause of the resulting injury or death.

Effect. Certainly the EMC, as previously referred to, would not share the same privileges or liabilities with a patient as would a physician and his patient, however, once the EMC responds and there is an emergency, it is my judgment that the EMC would be duty-bound, not only legally but morally to stay with the victim until subsequent lateral or higher degree of care can be provided for them. I recognize the EMC is a volunteer, however, if there is a degree of reliance (which there certainly would be, either expressly or implied) I feel as though the EMC could not just leave the victim.

Where does the EMT's responsibility begin and where does it end once the specific instance is joined? What are his duties with regards to that of abandonment and what would be the residuals by the unilateral termination of his part? These and other issues are not determinable by me at this time since I can find no case law pertaining thereto. I would, however, suggest that specific policies and procedures be set up within the community and advertised setting forth the duties of the EMC.

Conclusion. Presuming that the EMC would be delivering assistance on the level of the emergency care set forth through the National American Red Cross and the standard of care in cardiopulmonary resuscitation recommended by the Georgia Heart Association, it is my feeling that this program would save many lives annually.

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